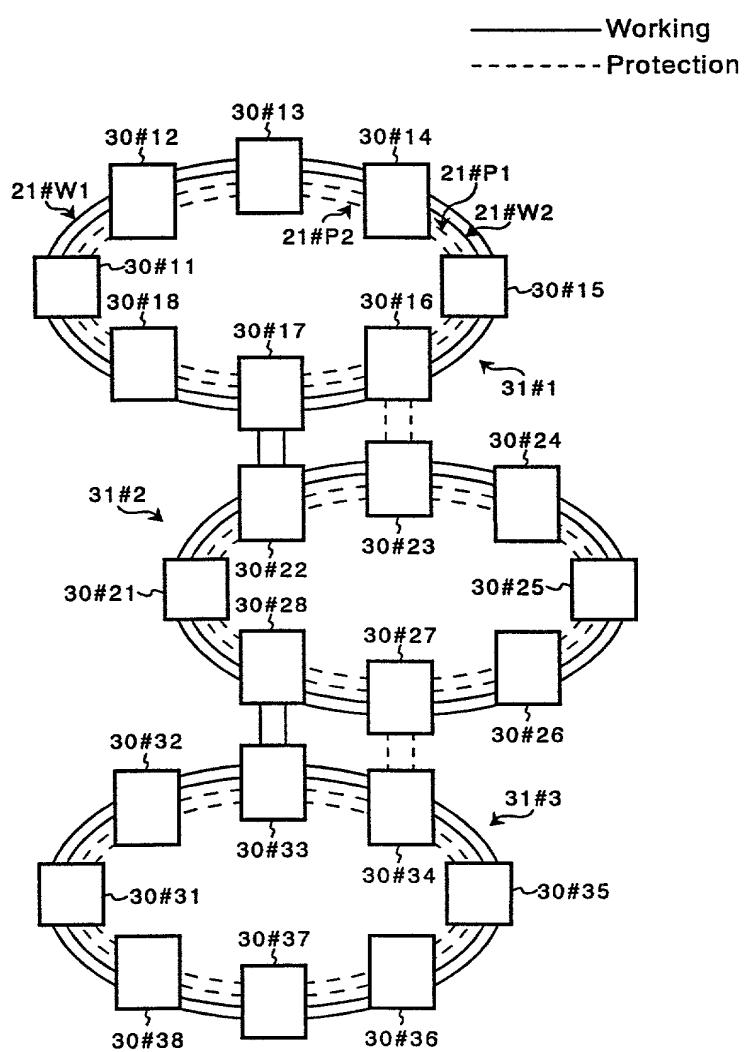
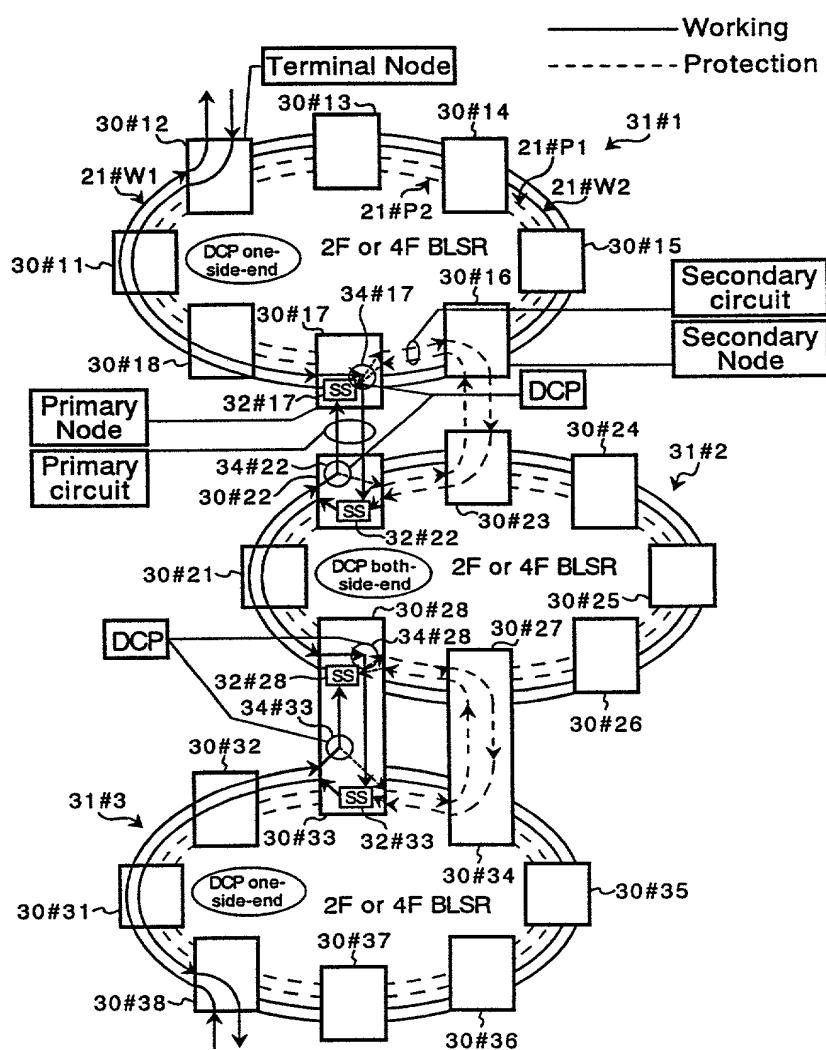


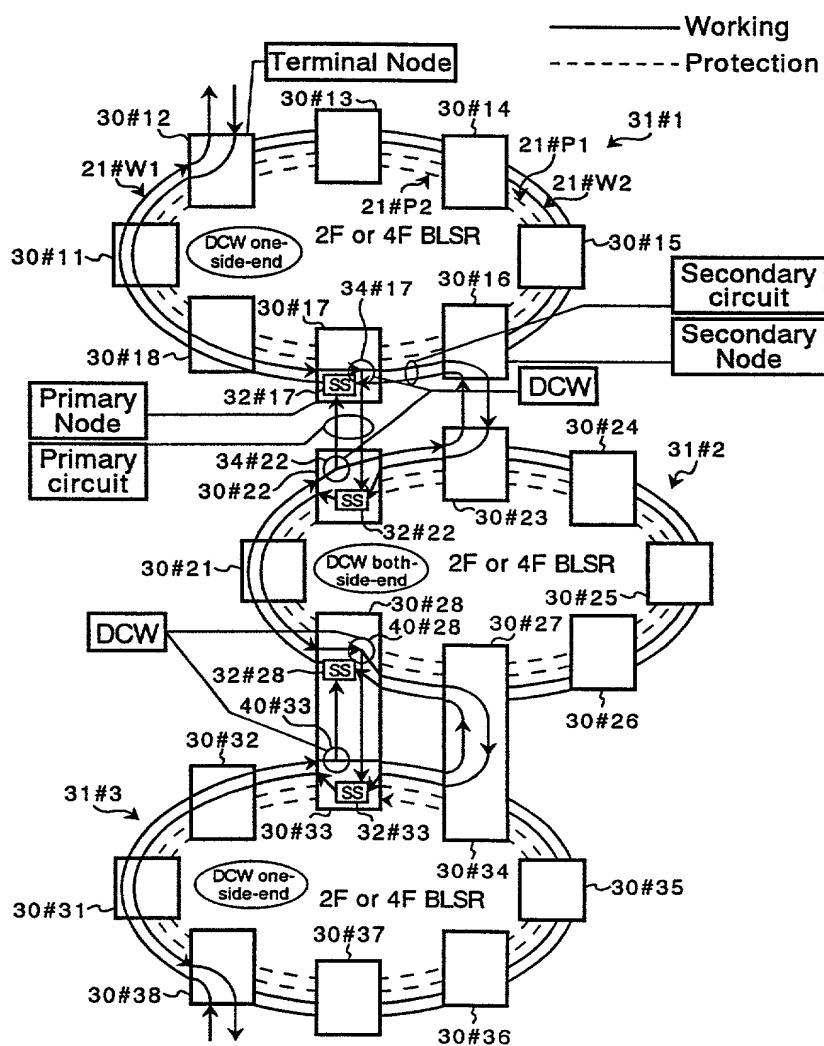
# FIG. 8



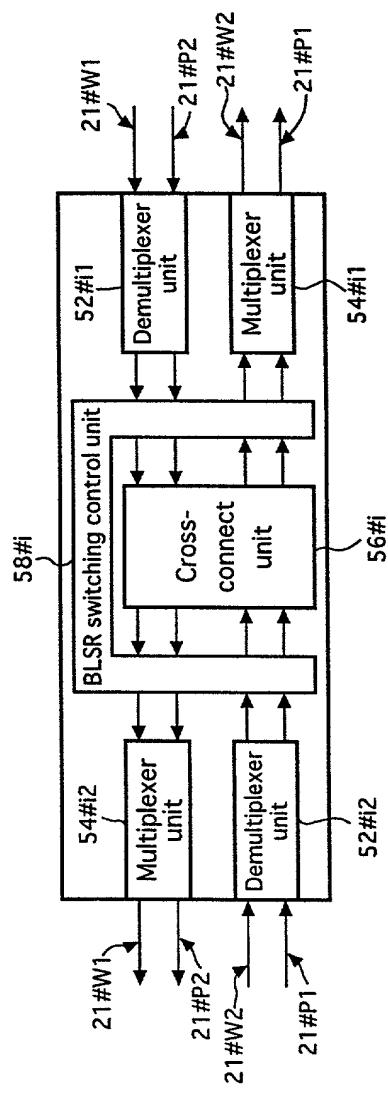
# FIG. 9



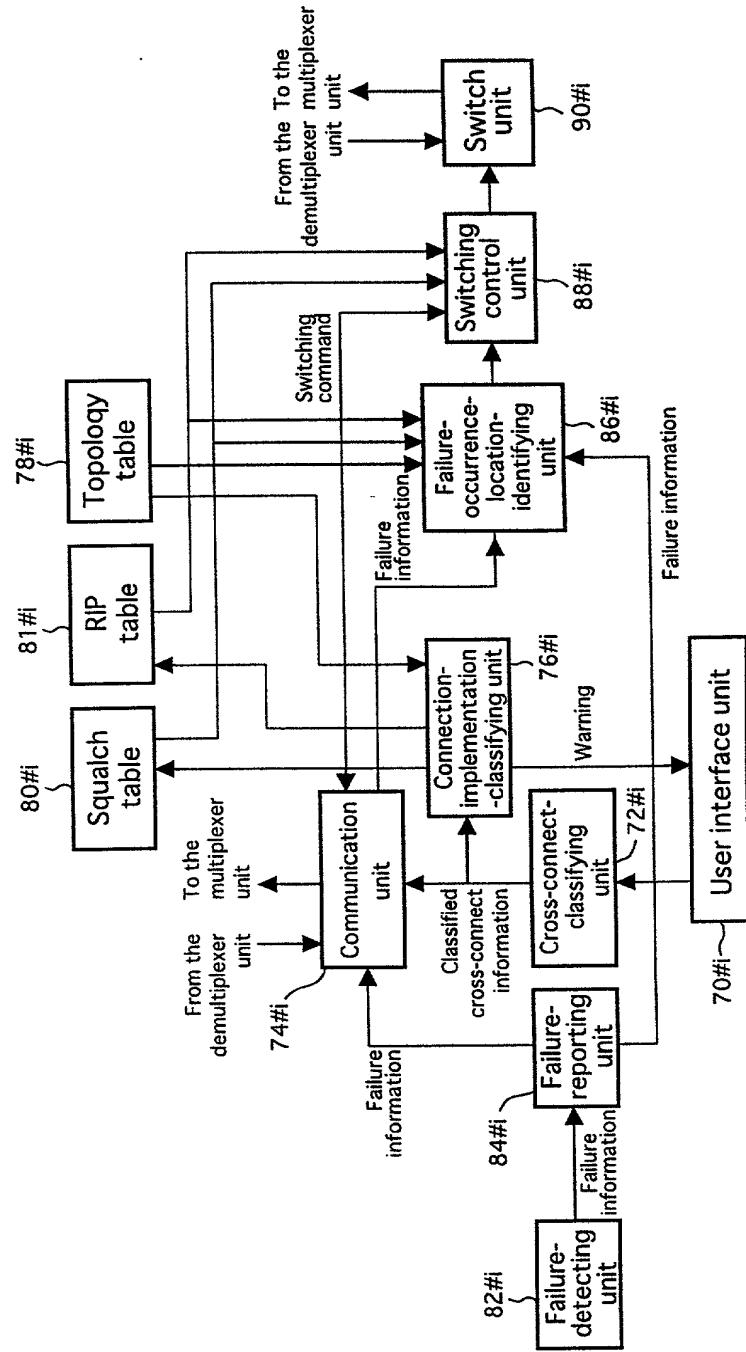
# FIG. 10



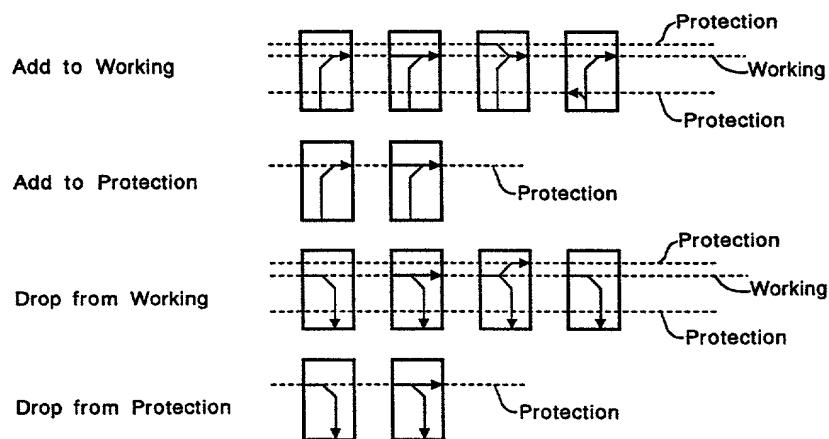
# FIG. 11



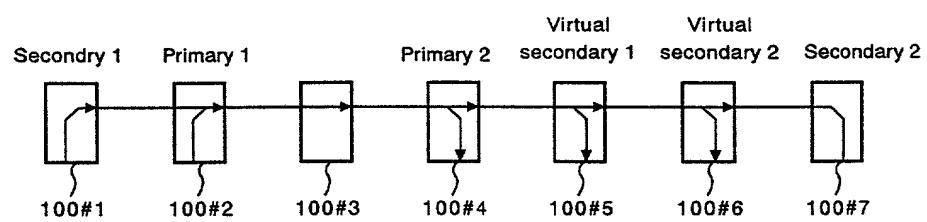
# FIG. 12



# FIG. 13

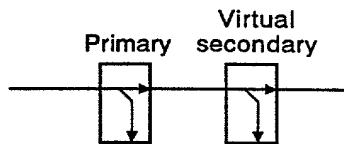


# FIG. 14



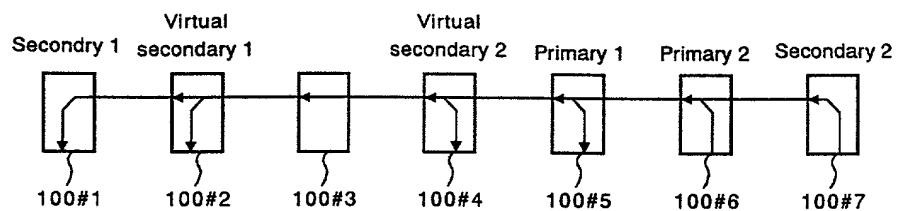
# FIG. 15

A case in which 2 consecutive intermediate stations drop a signal in the east direction sequentially



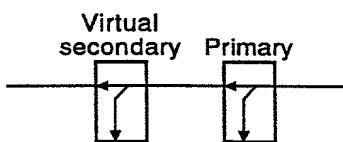
Data of the second and subsequent intermediate stations is not collected.

# FIG. 16



# FIG. 17

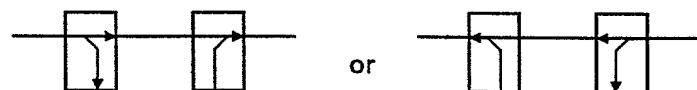
A case in which 2 consecutive intermediate stations drop a signal in the west direction sequentially



Data of the second intermediate stations is overwritten by data of this station.

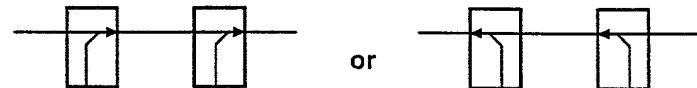
## FIG. 18 A

A case in which an intermediate station drops a signal and the next intermediate station adds a signal, or an intermediate station adds a signal and the next intermediate station drops a signal



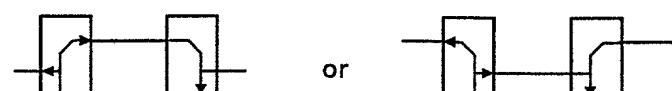
## FIG. 18 B

A case in which 2 consecutive intermediate stations add a signal sequentially



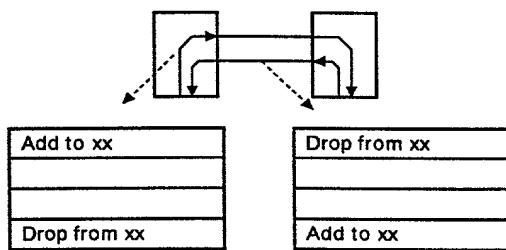
## FIG. 18 C

A case in which all stations along a transmission line respectively adds, drops, adds and drops a signal sequentially, or drops, adds, drops and adds a signal sequentially.



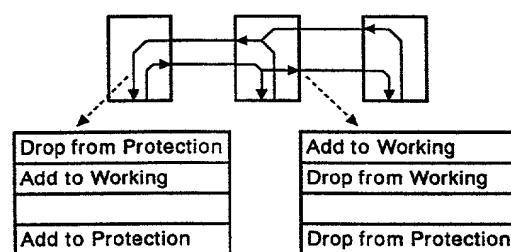
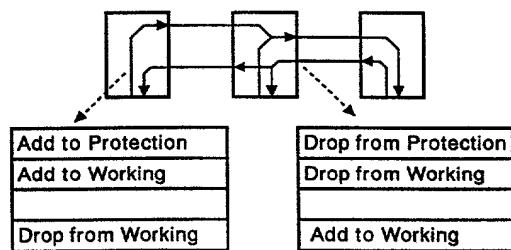
# FIG. 19

## Normal add/drop or DTW



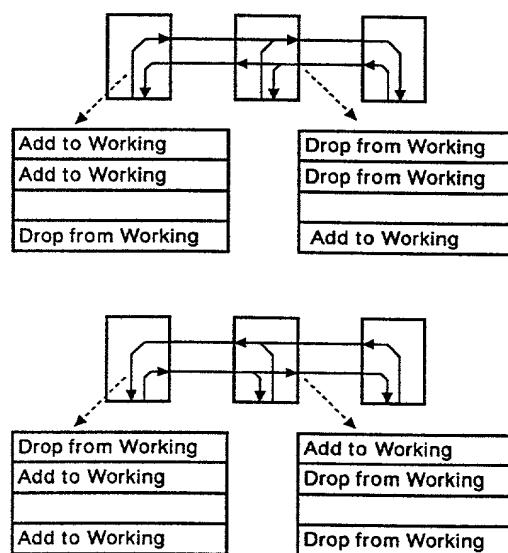
# FIG. 20

DCP one-side-end

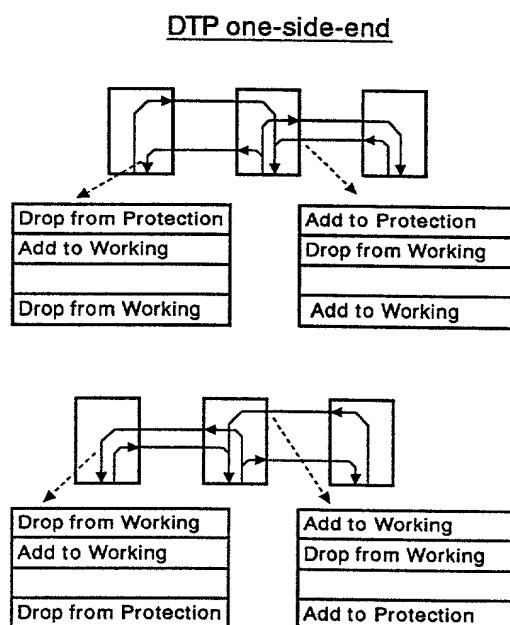


# FIG. 21

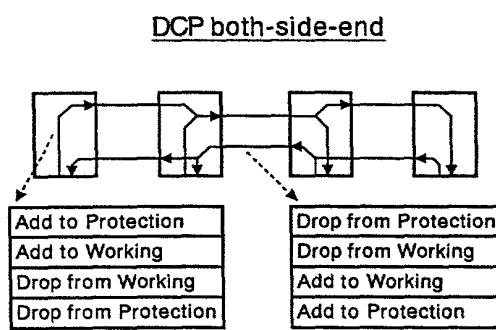
DCW one-side-end



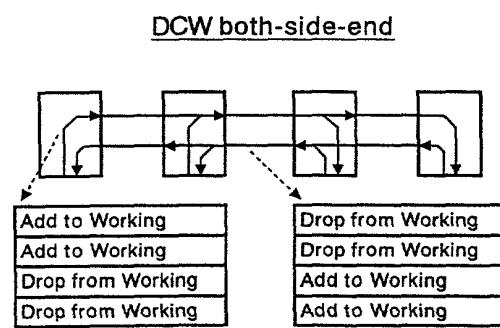
# FIG. 22



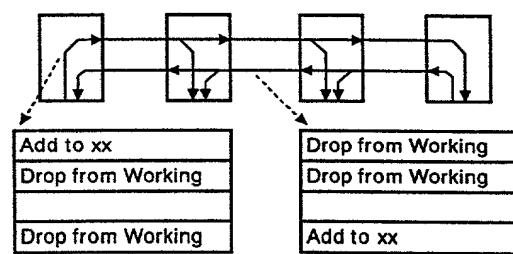
F I G. 23



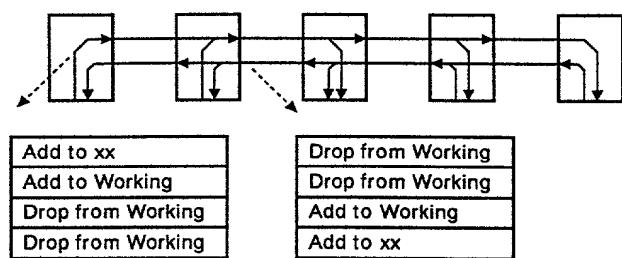
F I G. 24



F I G. 25

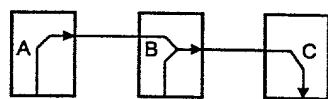


F I G. 26



# FIG. 27

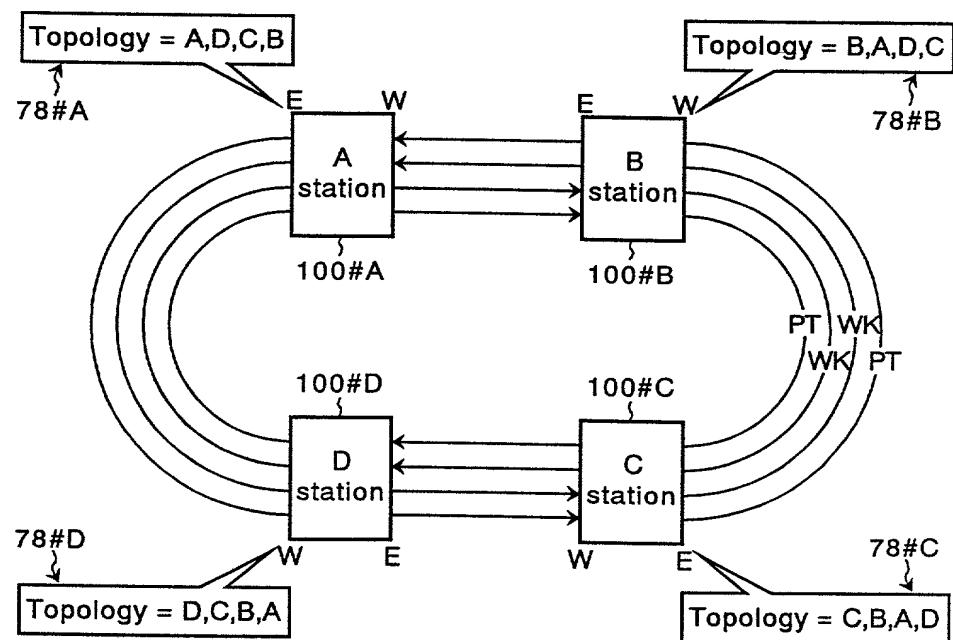
For example, the following cross connect:



Collected data indicates a DCP connection as follows:

Cross-connect category	ID
Add to Protection	A
Add to Working	B
Drop from Protection	C

# FIG. 28

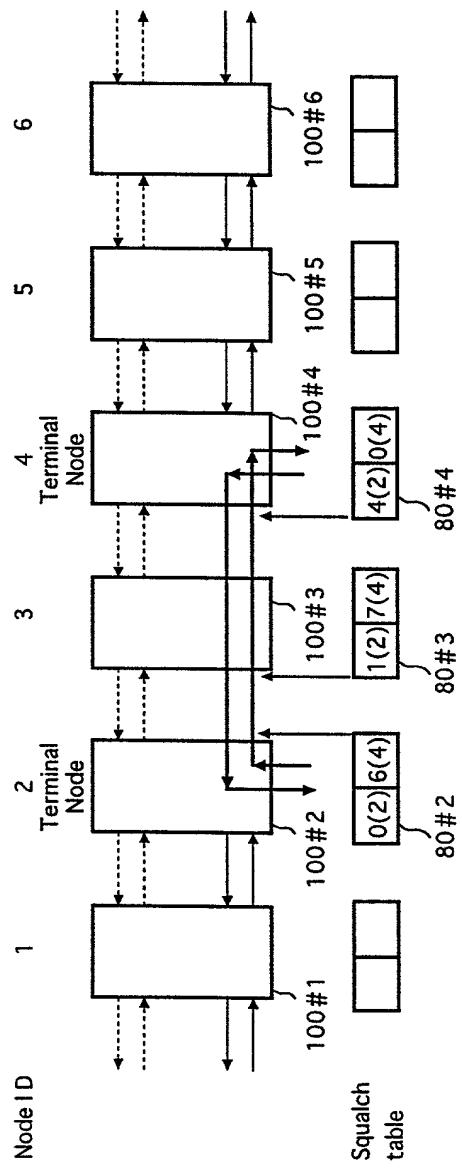


# FIG. 29

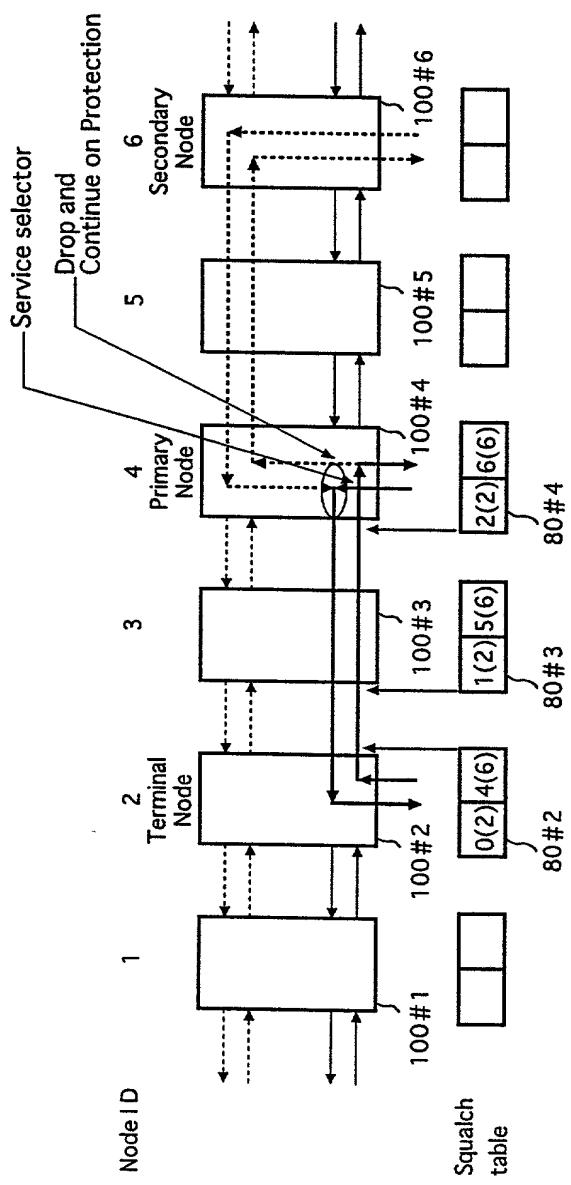
CH#						
			East		West	
CH#1	Add					
	Drop					
...						
CH#n	Add					
	Drop					

80#i

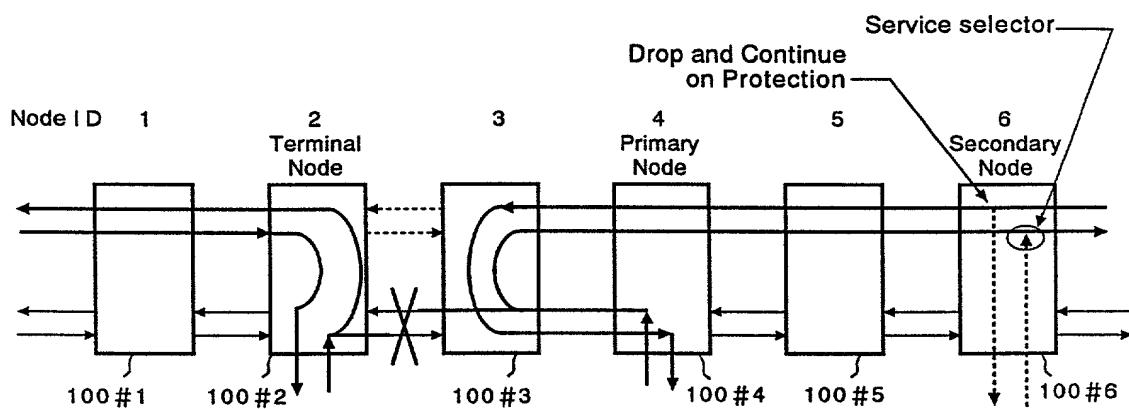
# FIG. 30



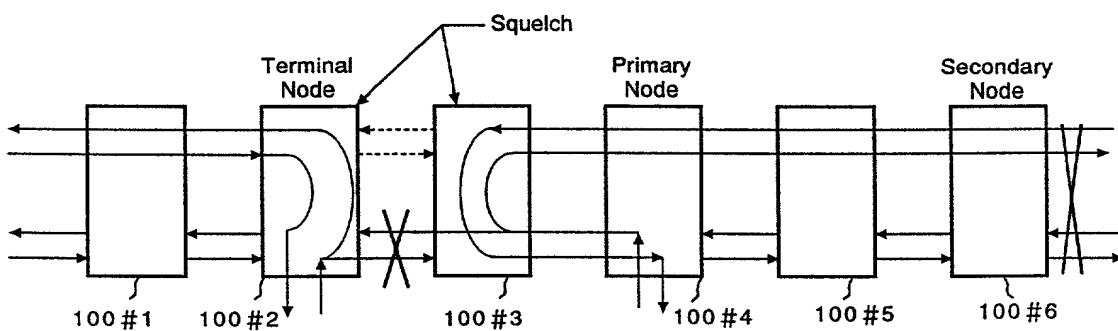
# FIG. 31



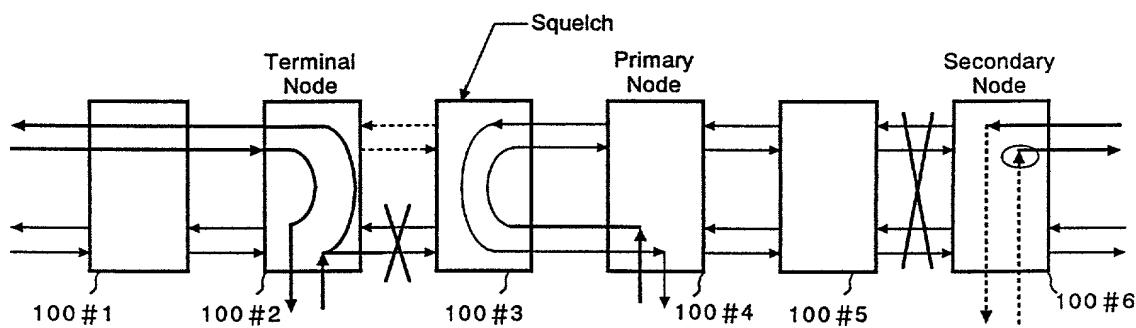
# FIG. 32A



# FIG. 32B



# FIG. 32C



# F I G. 33

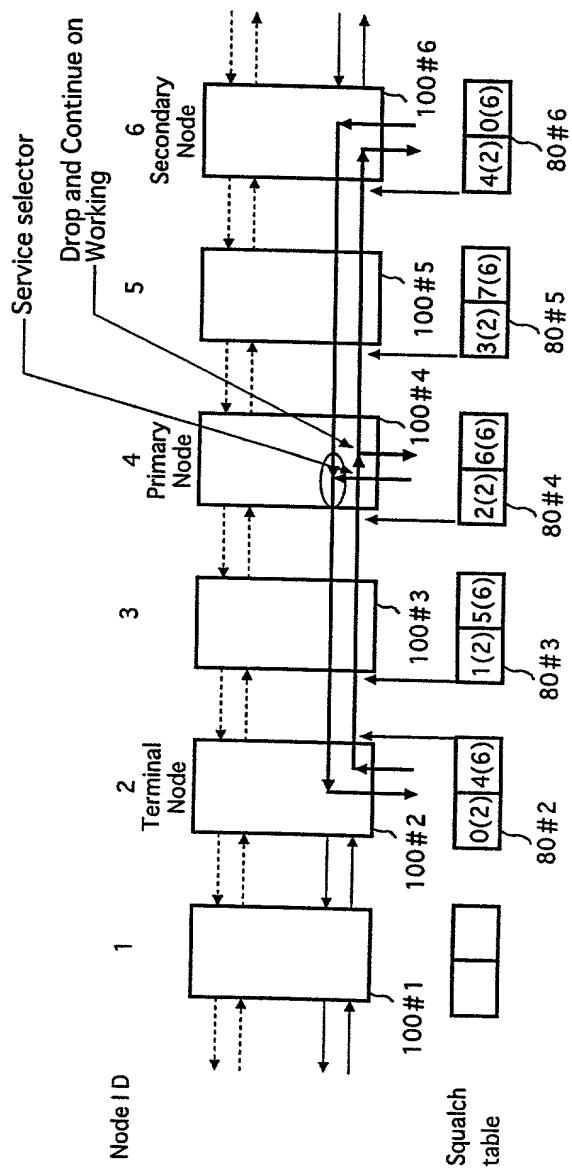


FIG. 34

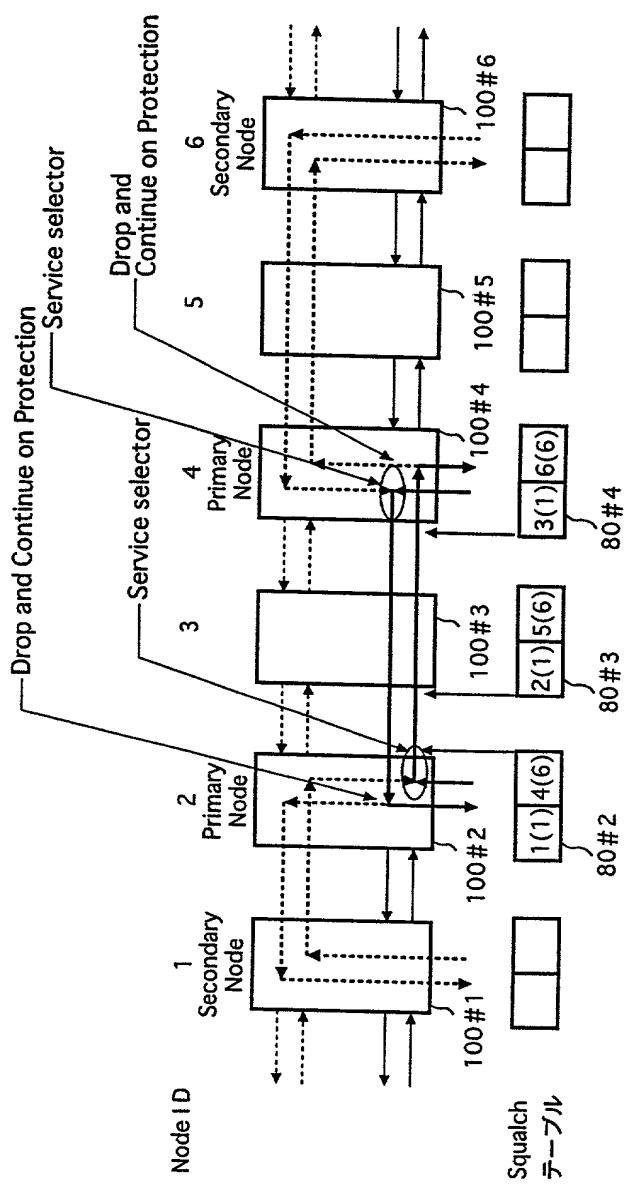
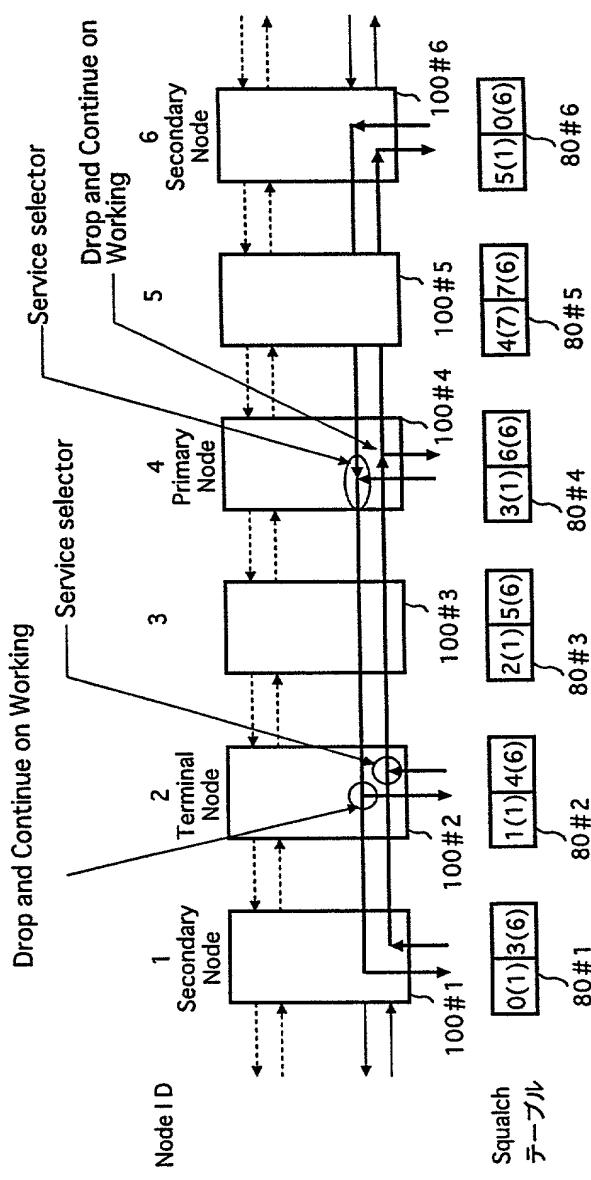
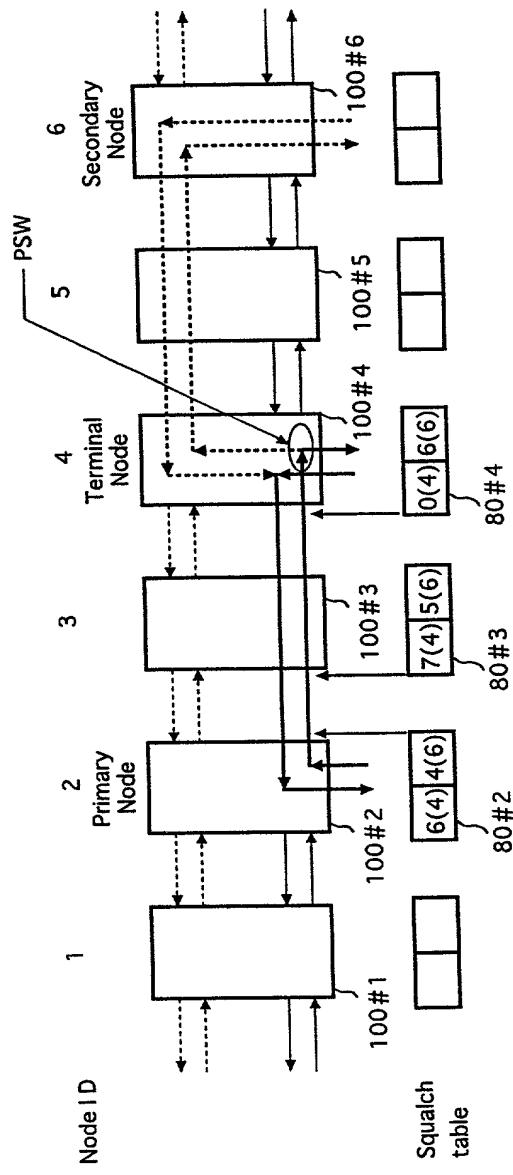


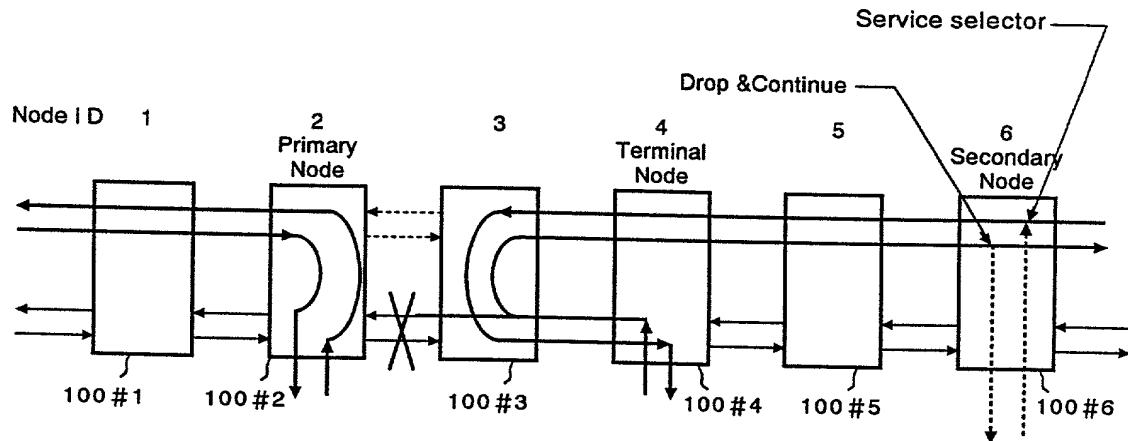
FIG. 35



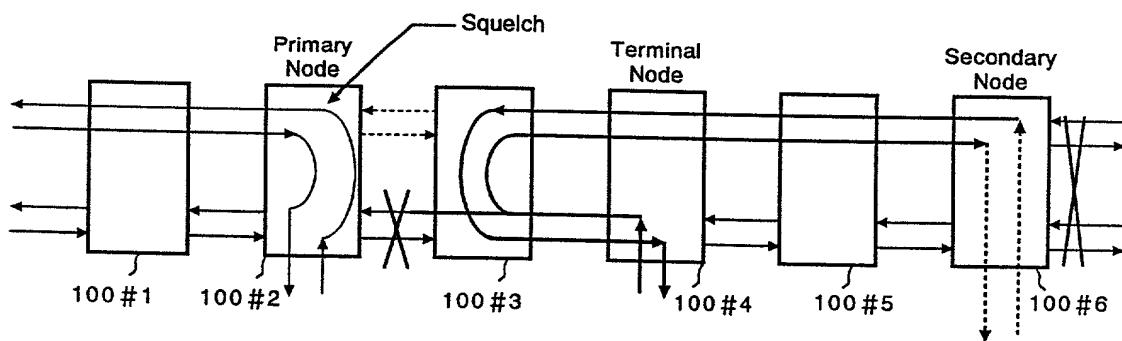
# F | G. 36



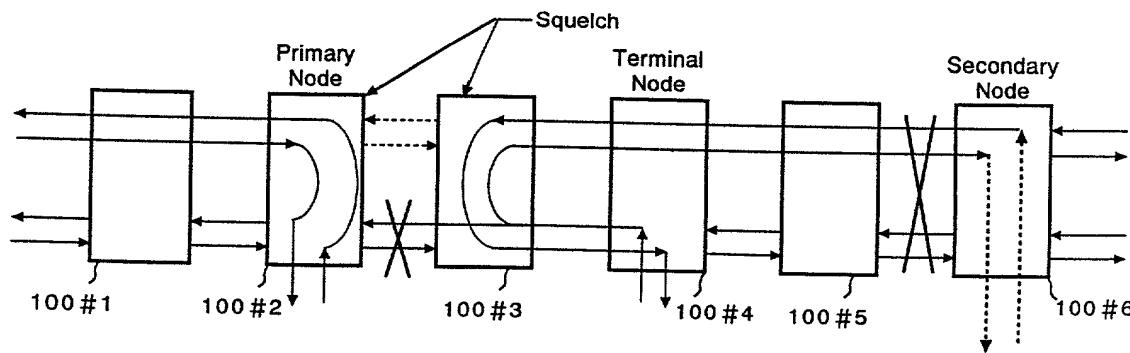
# FIG. 37 A



# FIG. 37 B



# FIG. 37 C

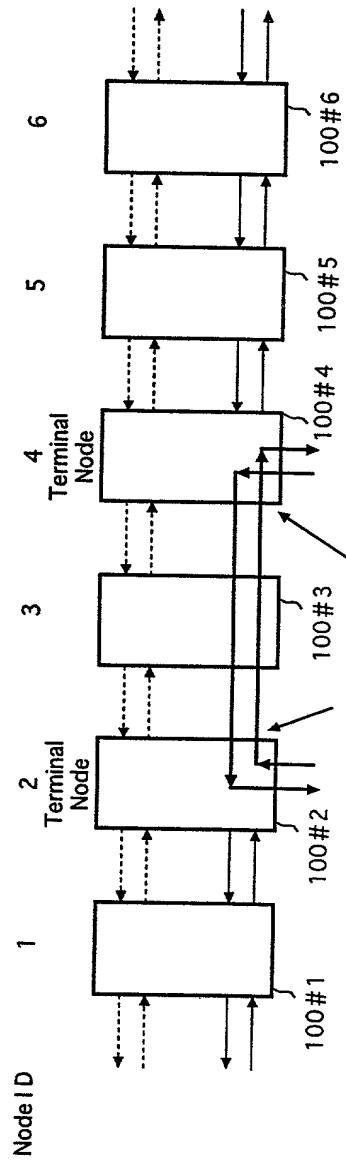


# FIG. 38

CH#	Add Drop	East				West			
		Sec	Pri/ Term	Pri/ Term	Sec	Sec	Pri/ Term	Pri/ Term	Sec
CH#1	Add								
	Drop								
CH#2	Add								
	Drop								
...	...	...	...	...	...	...	...	...	...
CH#n	Add								
	Drop								

81#i

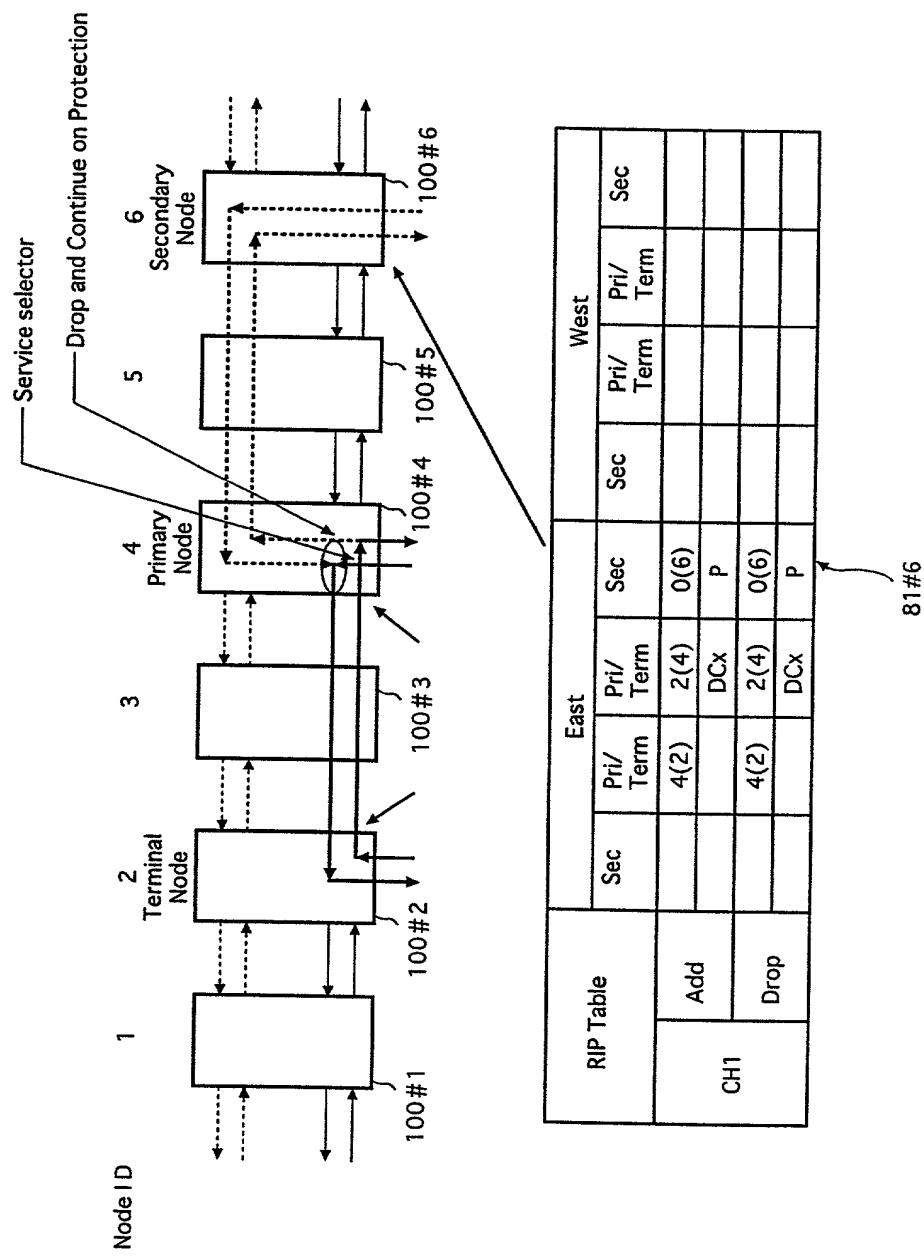
# FIG. 39



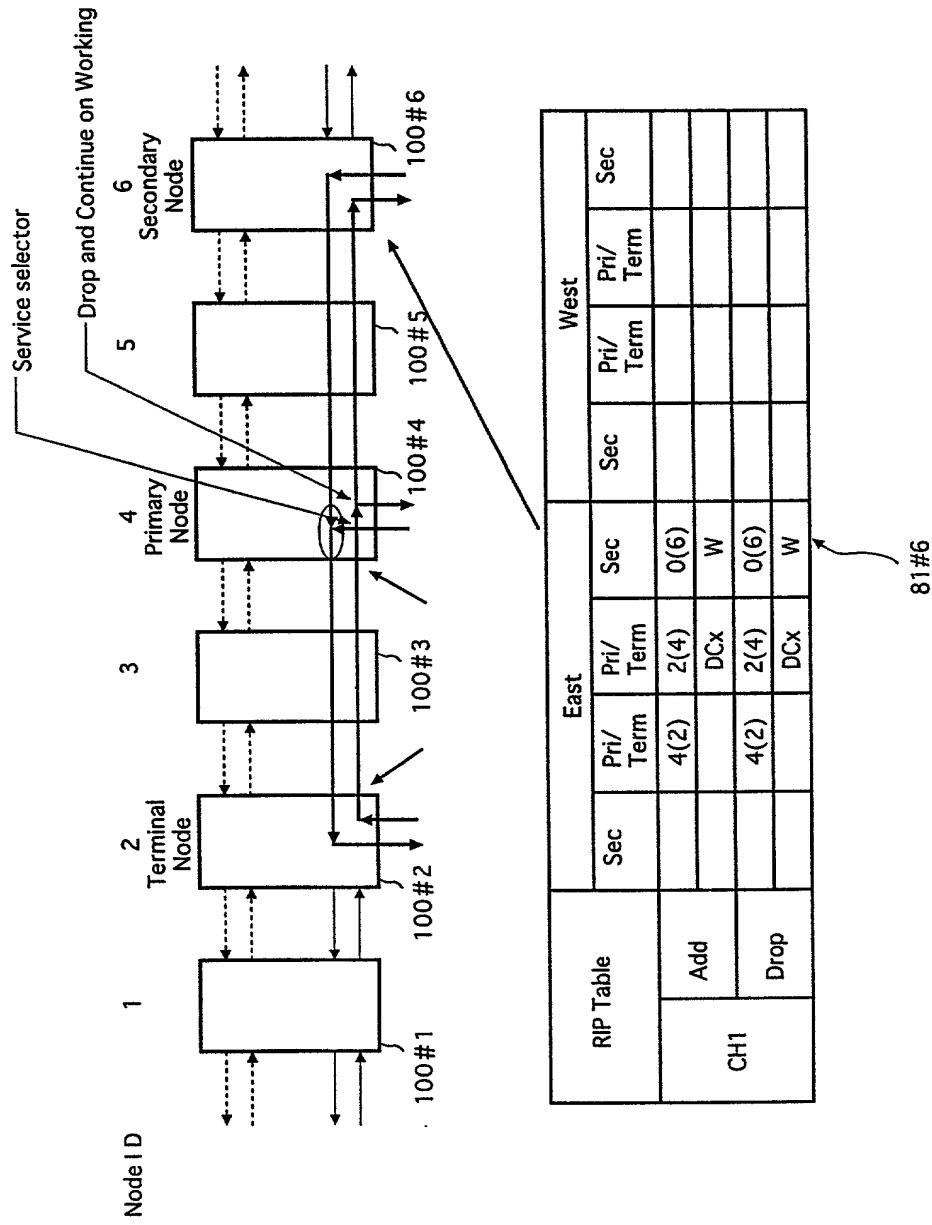
RIP Table		East			West		
		Sec	Pri/Term	Sec	Sec	Pri/Term	Sec
CH1	Add		2(2)	0(4)			
	Drop		2(2)	0(4)			

81#4

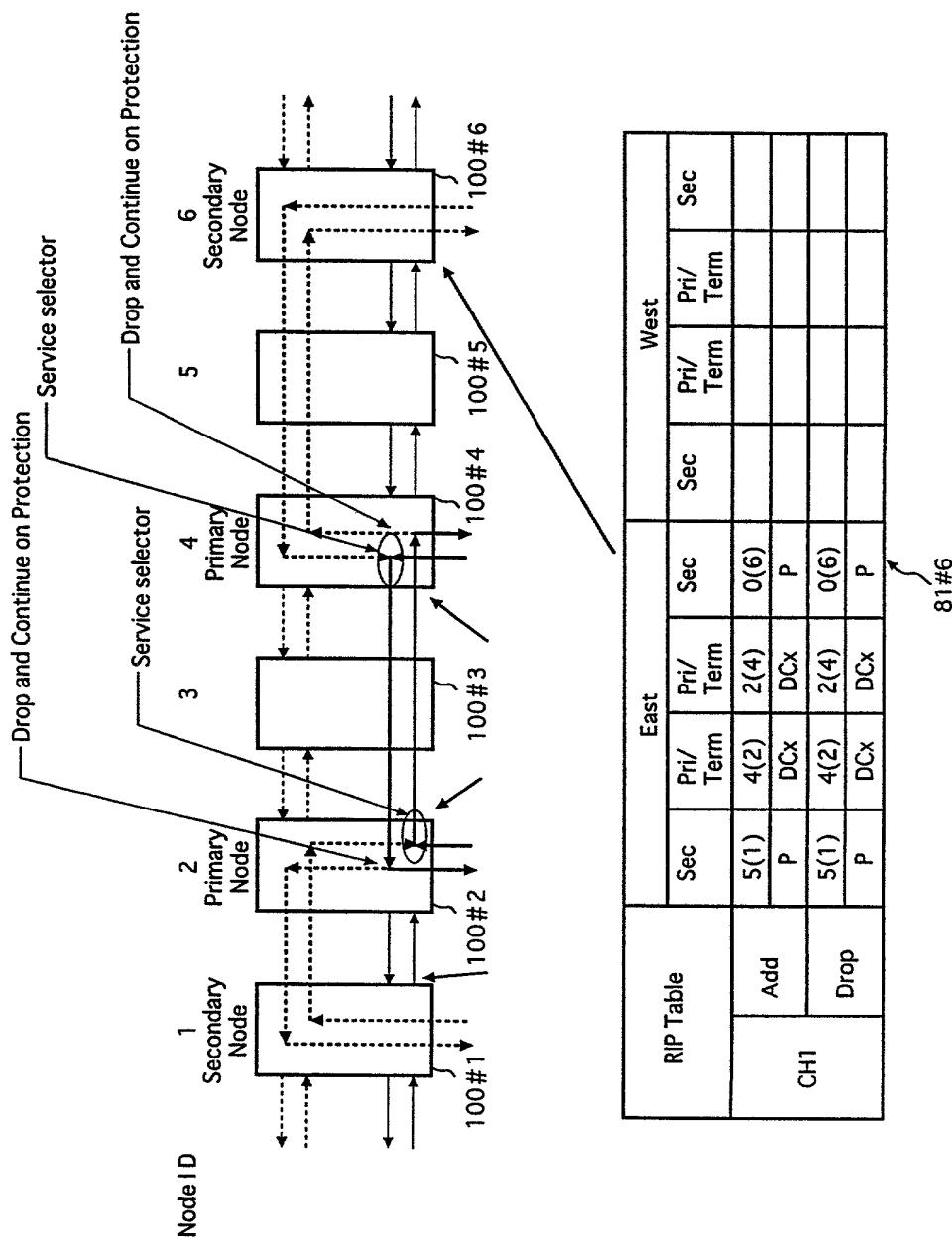
F I G. 40



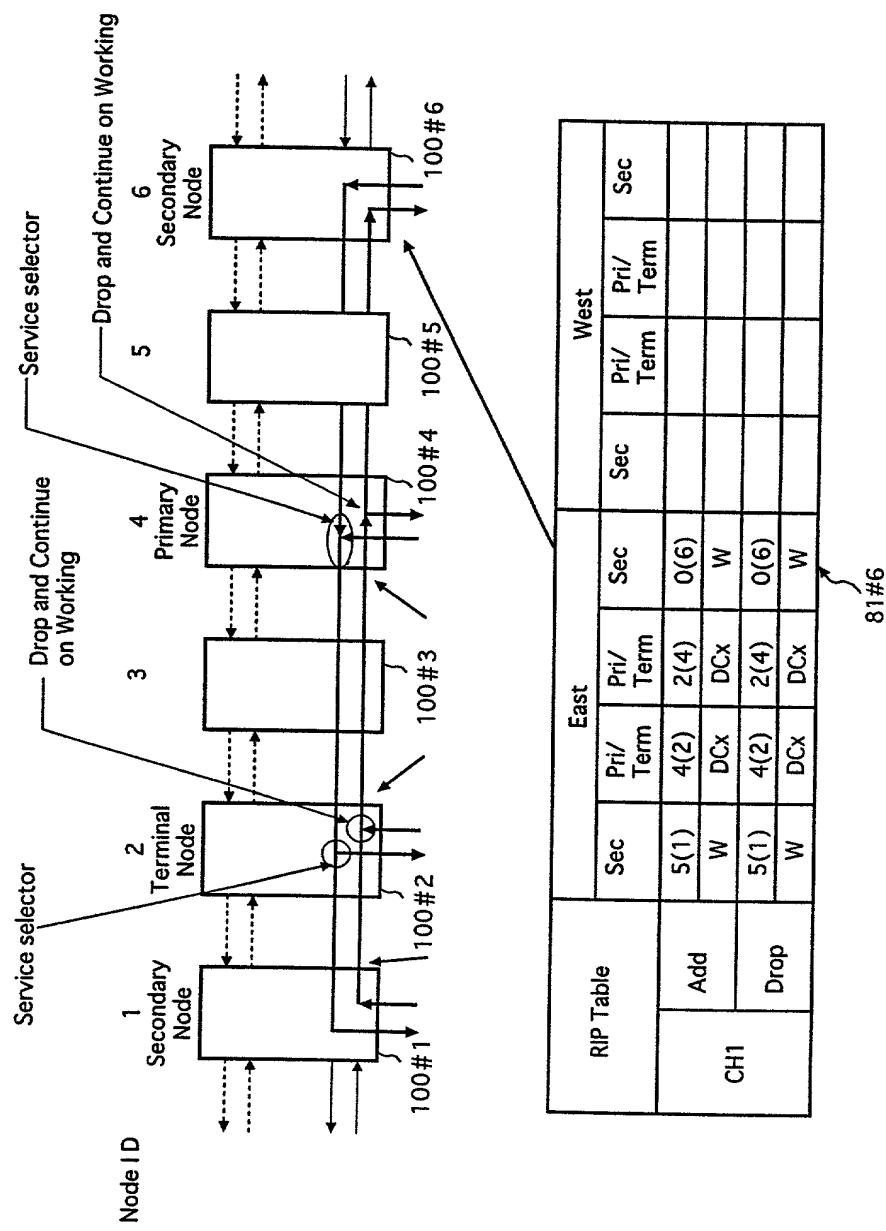
# FIG. 41



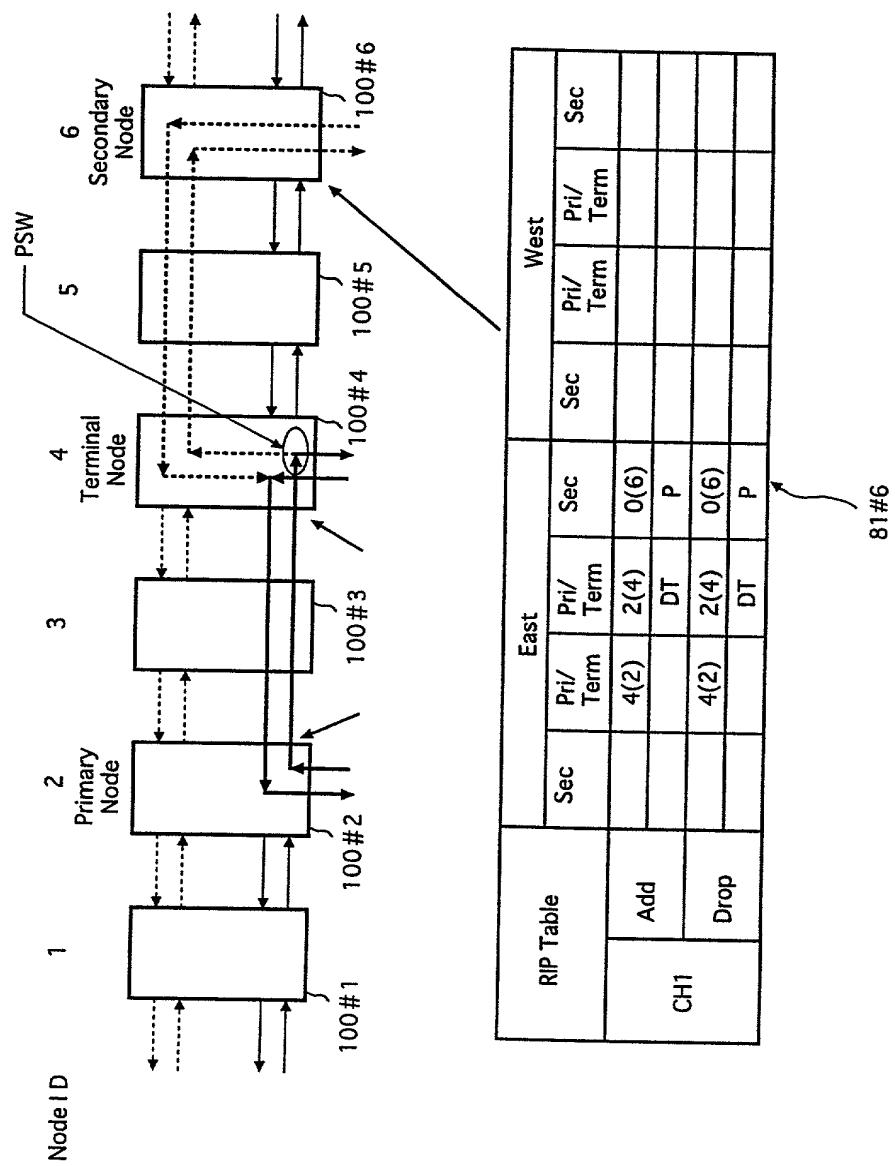
# FIG. 4.2



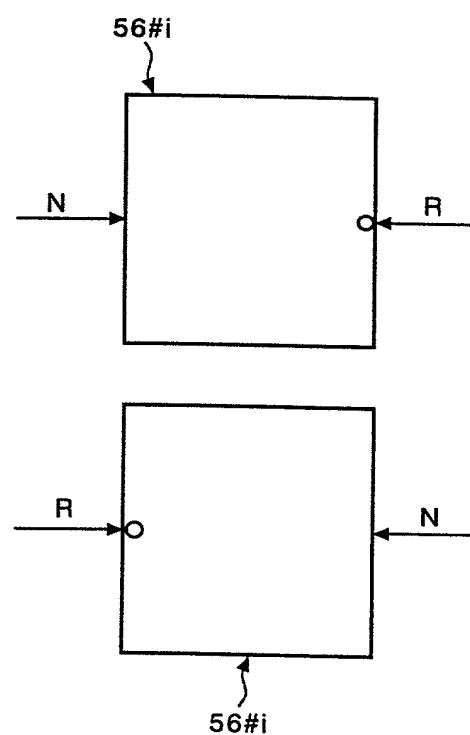
# FIG. 43



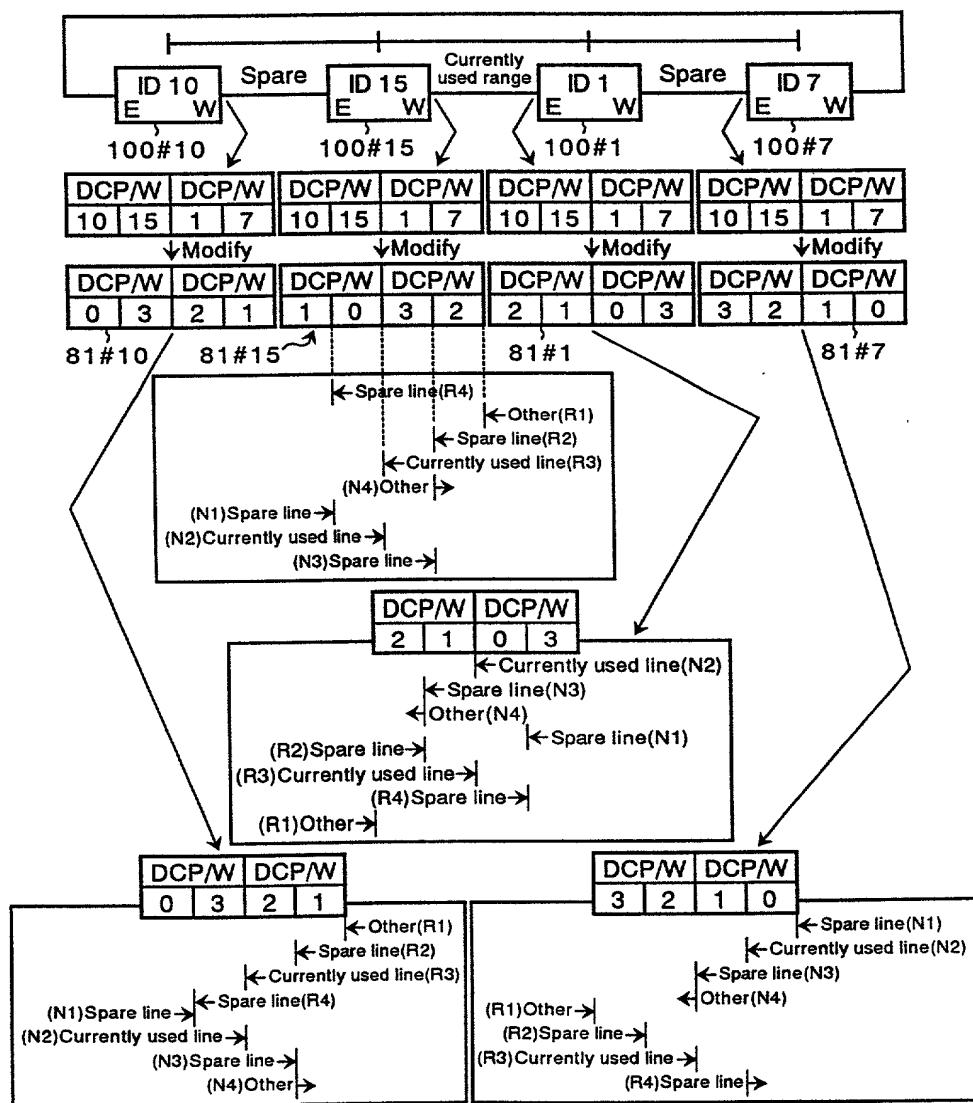
# FIG. 44



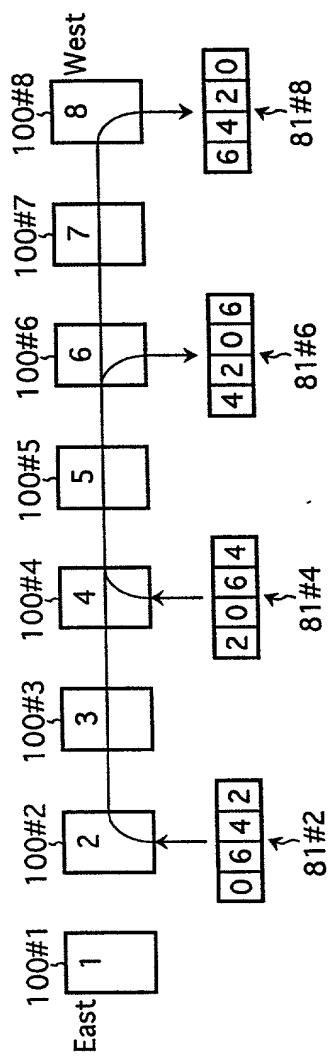
# FIG. 4 5



F I G. 4 6



# F | G. 47



# FIG. 48

	E-S	E-P	W-P	W-S
4	2	0	6	
0	T	T	F	T
1	T	T	F	T
2	T	F	F	T
3	T	F	F	T
4	F	F	F	T
5	F	F	F	T
6	F	F	F	F
7	F	F	F	F

	E-S	E-P	W-P	W-S
6	4	2	0	
0	T	T	T	F
1	T	T	T	F
2	T	T	T	F
3	T	T	F	F
4	T	F	F	T
5	F	F	F	T
6	F	F	F	F
7	F	F	F	F

(East ID < RIP)

# FIG. 49

	E-S	E-P	W-P	W-S
4	2	0	6	
0	T	T	T	T
1	T	T	F	T
2	T	T	F	T
3	T	F	F	T
4	T	F	F	T
5	F	F	F	T
6	F	F	F	T
7	F	F	F	F

	E-S	E-P	W-P	W-S
6	4	2	0	
0	T	T	T	F
1	T	T	T	F
2	T	T	T	F
3	T	T	F	F
4	T	T	F	F
5	T	F	F	F
6	T	F	F	F
7	F	F	F	F

(West ID  $\leq$  RIP)

## FIG. 50

	E-S	E-P	W-P	W-S
0	0	6	4	2
0	T	T	T	T
1	F	T	T	T
2	F	T	T	T
3	F	T	T	F
4	F	T	T	F
5	F	T	F	F
6	F	T	F	F
7	F	F	F	F
	E-S	E-P	W-P	W-S
2	0	6	4	
0	T	T	T	T
1	T	F	T	T
2	T	F	T	T
3	F	F	T	T
4	F	F	T	T
5	F	F	T	F
6	F	F	T	F
7	F	F	F	F

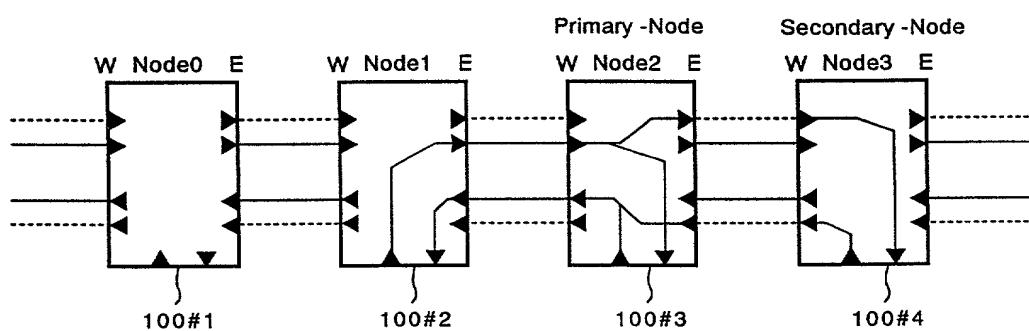
(West ID  $\leq$  RIP)

## FIG. 51

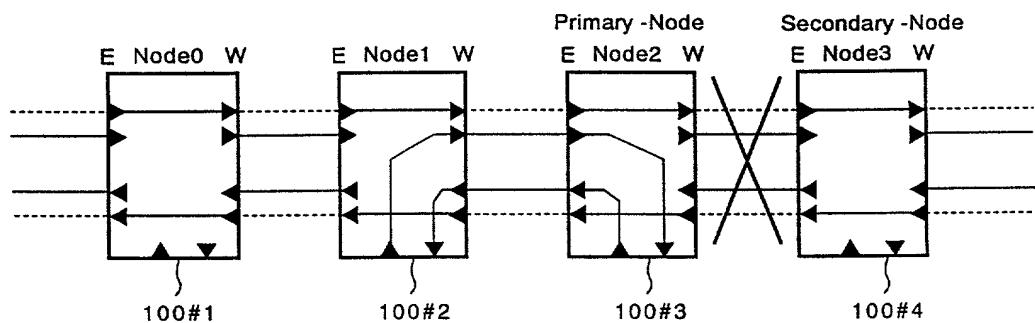
	E-S	E-P	W-P	W-S
0	0	6	4	2
0	F	T	T	T
1	F	T	T	T
2	F	T	T	F
3	F	T	T	F
4	F	T	F	F
5	F	T	F	F
6	F	F	F	F
7	F	F	F	F
	E-S	E-P	W-P	W-S
2	0	6	4	
0	T	F	T	T
1	T	F	T	T
2	F	F	T	T
3	F	F	T	T
4	F	F	T	F
5	F	F	T	F
6	F	F	F	F
7	F	F	F	F

(East ID  $<$  RIP)

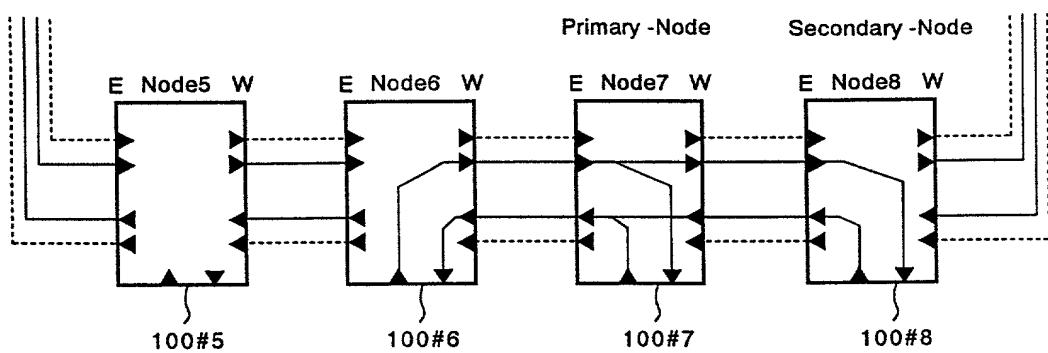
**FIG. 52 A**



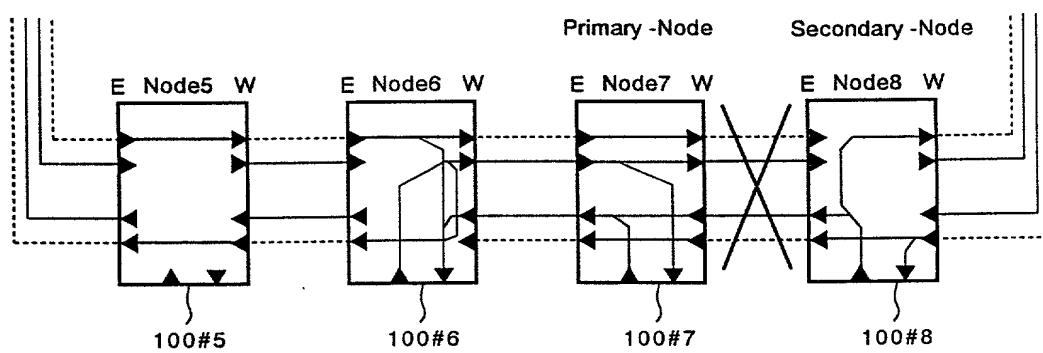
**FIG. 52 B**



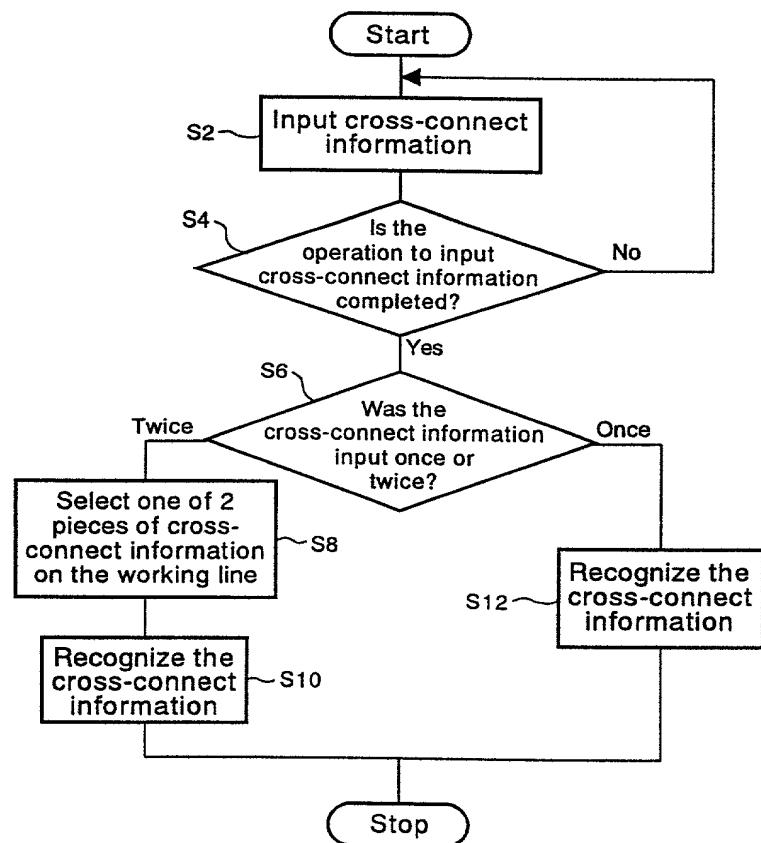
**FIG. 53 A**



**FIG. 53 B**



# F I G. 5 4



# FIG. 55

MSB								LSB
D7	D6	D5	D4	D3	D2	D1	D0	
Token control		Cross-connect category				Node ID		

Token control

D7	D6	Control
0	0	UNEQ
0	1	Ring establishment
1	0	Token transfer
1	1	Token

Cross-connect categories

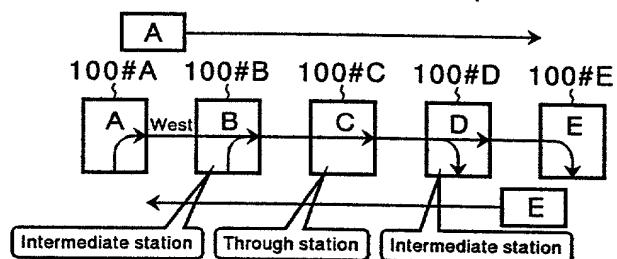
D5 Add/Drop	D4 Work/PTCT	Control
0	0	Add to Working
0	1	Add to Protection
1	0	Drop from Working
1	1	Drop from Protection

Node ID

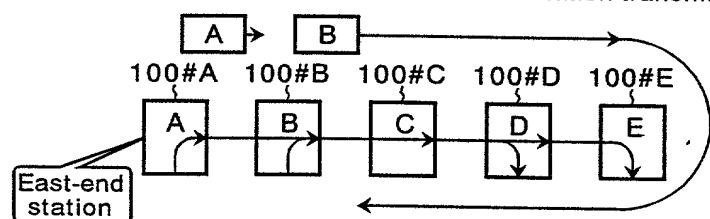
D3~D0				Control
				Absolute ID in the range 0 to 15

# F I G. 5 6

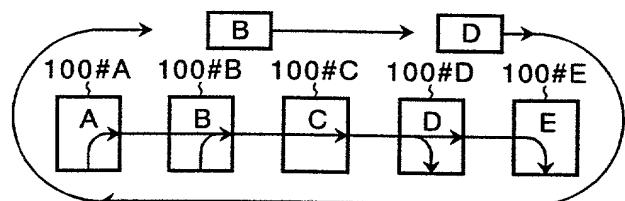
(1) An end station transmits a communication-path-establishing code



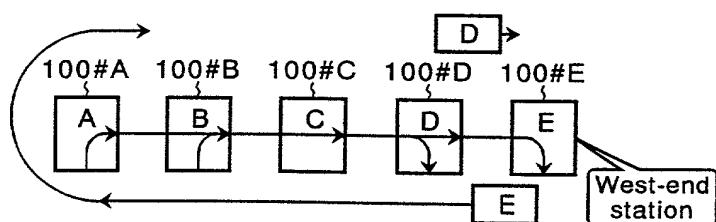
(2) The east-end station hands over a transmission right to an intermediate station and the intermediate station transmits data



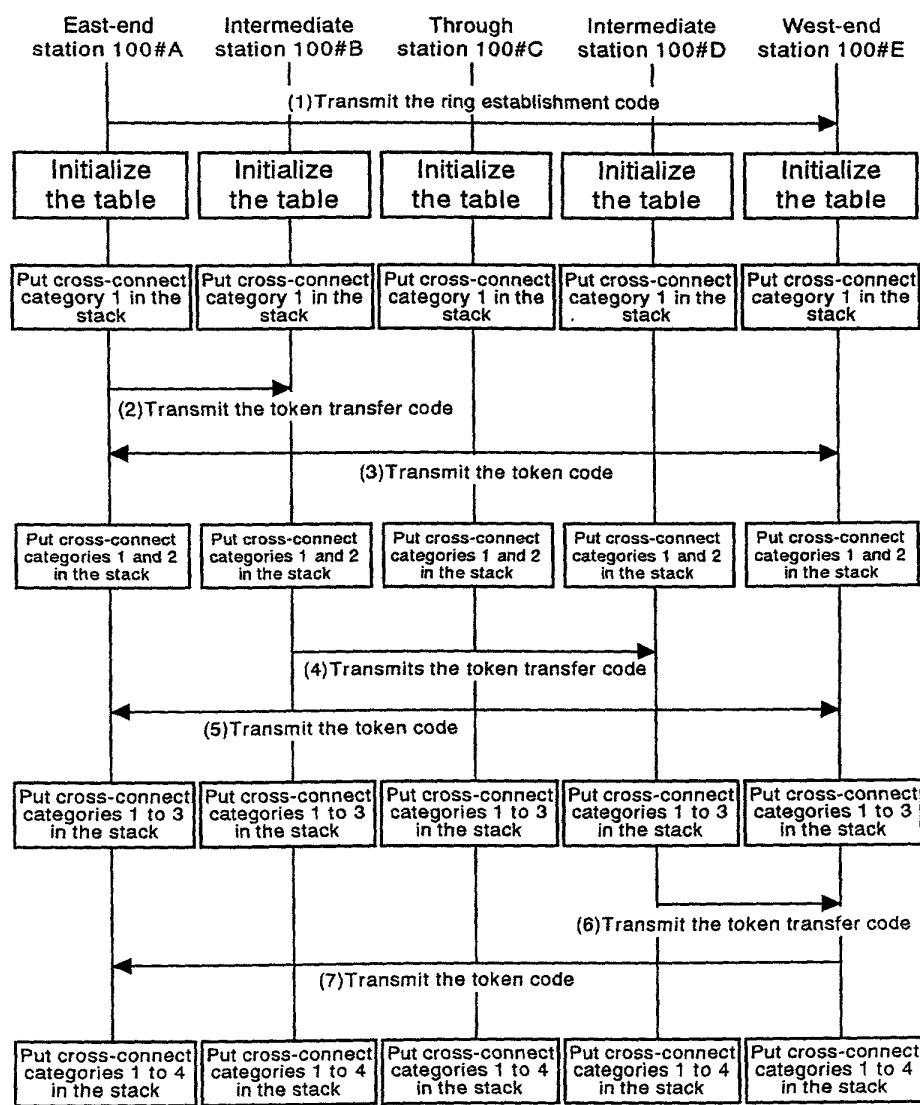
(3) The intermediate station hands over a transmission right to the next intermediate station and the next intermediate station transmits the data



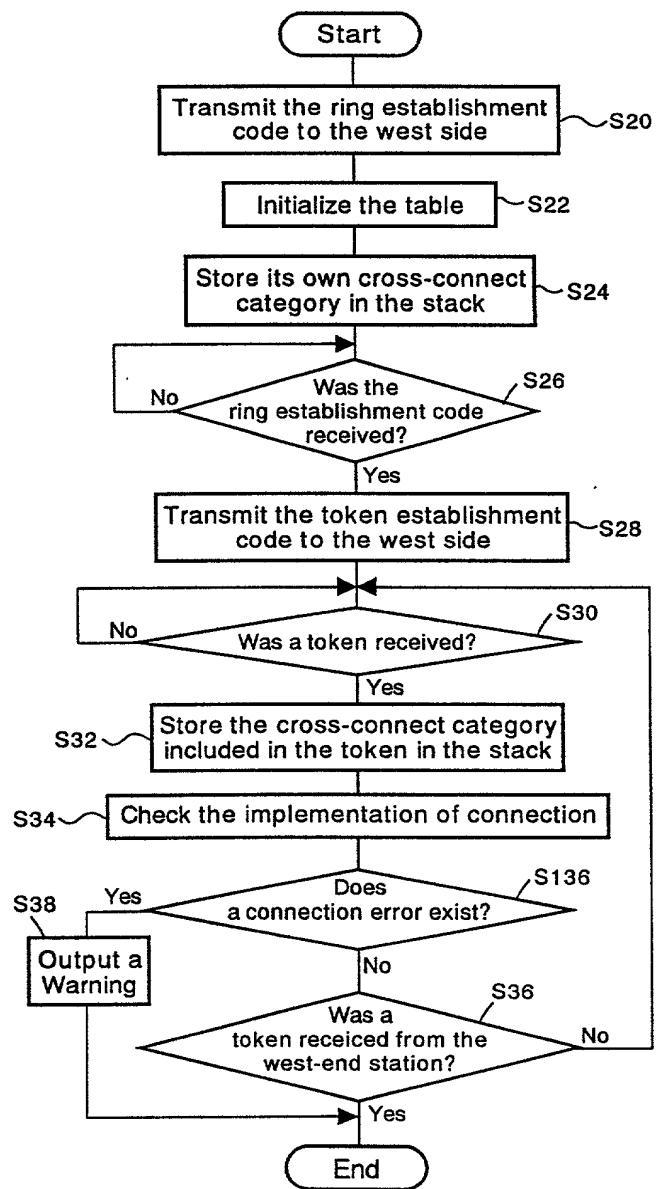
(4) The west-end station receives the transmission right and the transmission of the data is completed



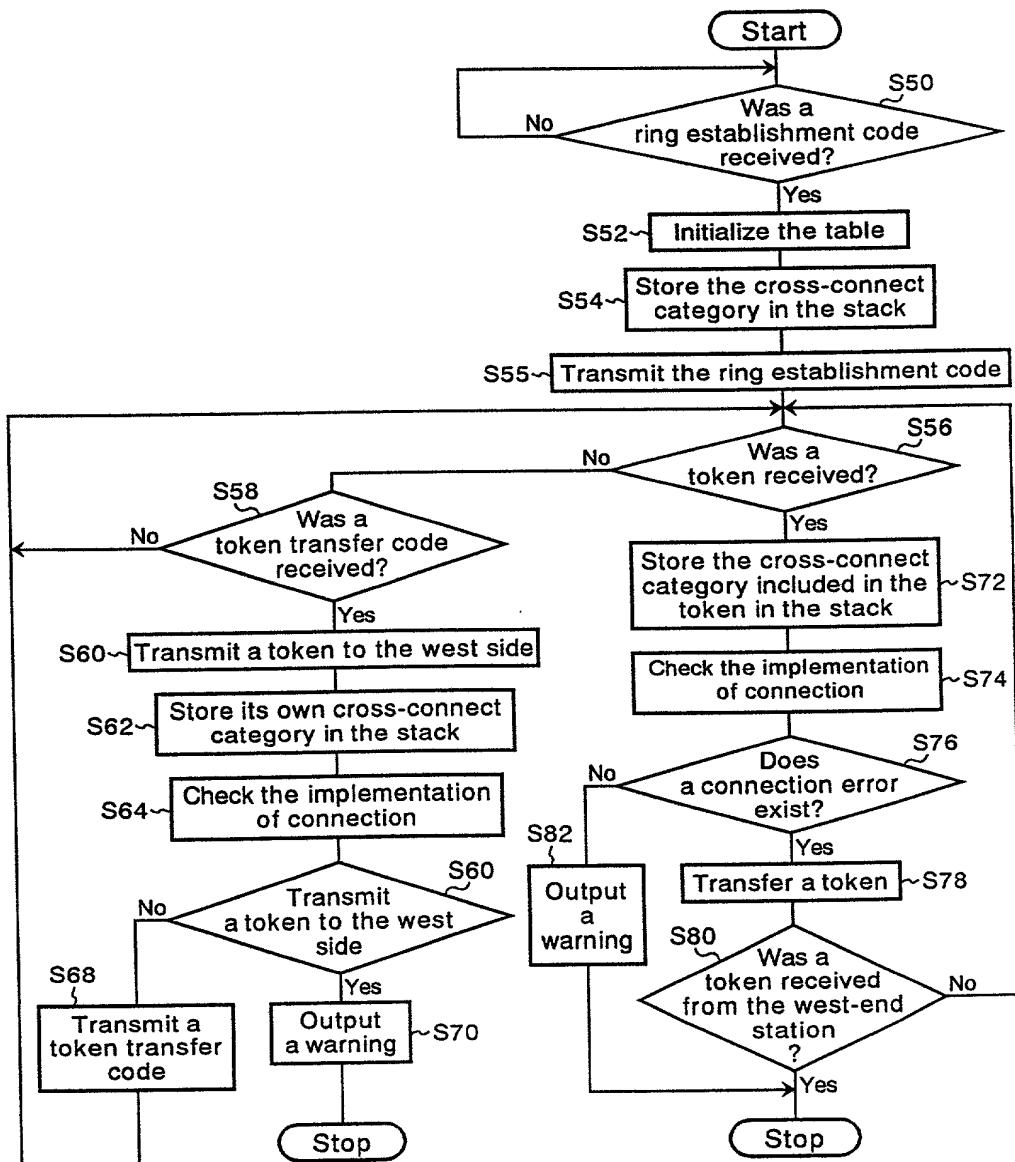
# FIG. 57



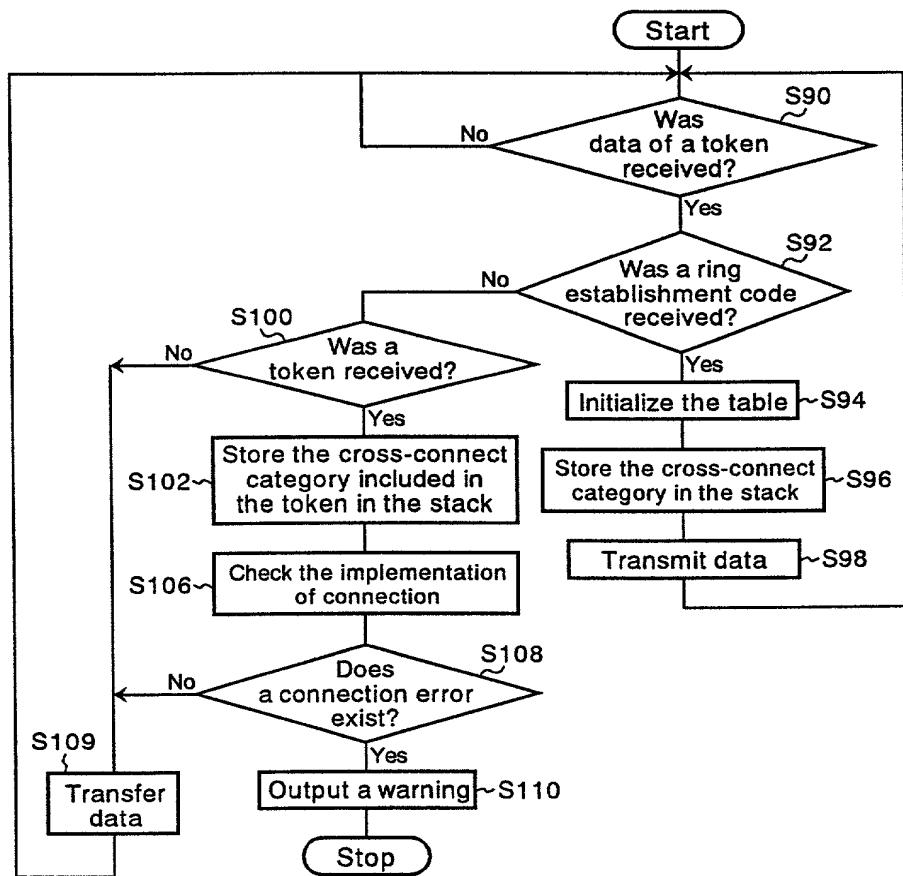
# FIG. 58



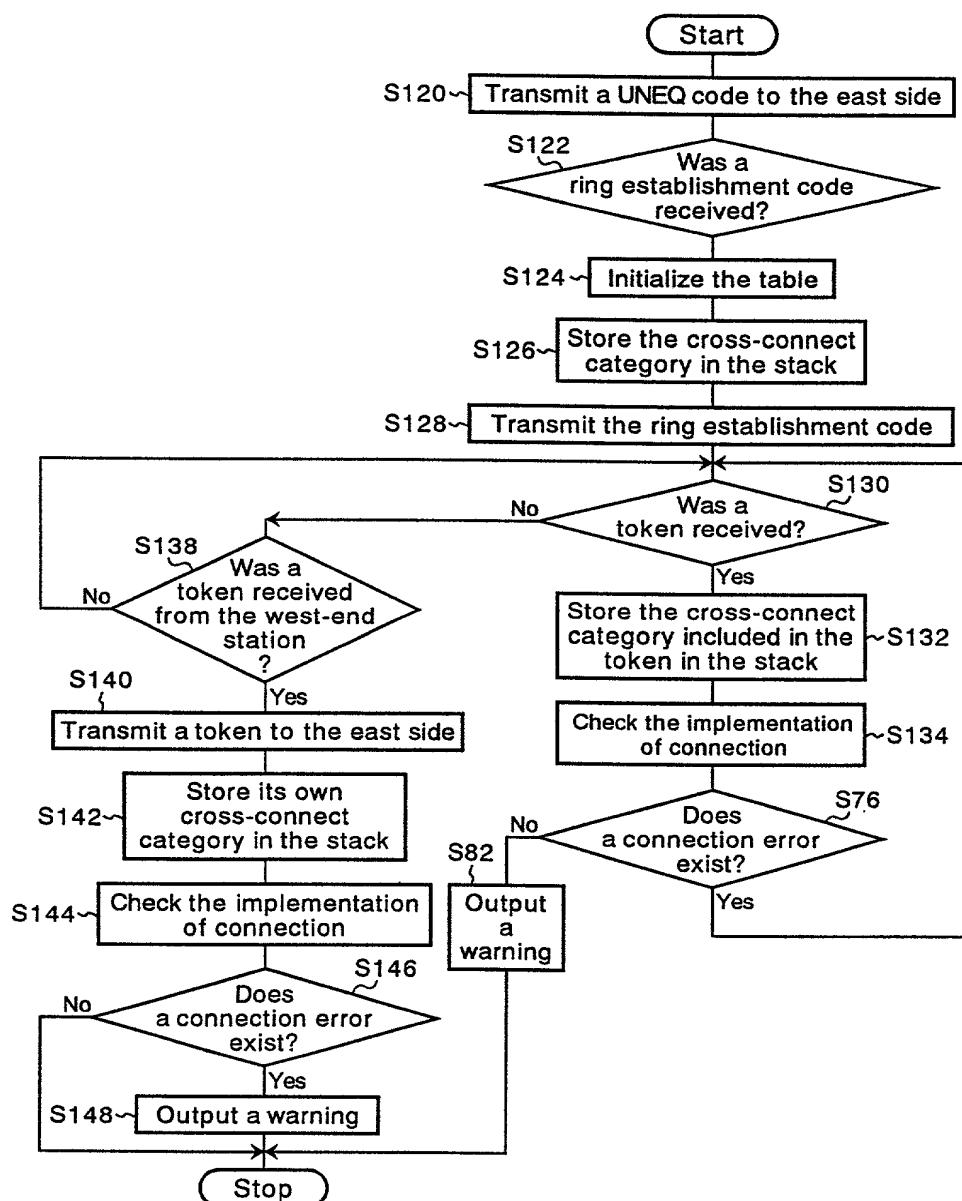
F I G. 5 9



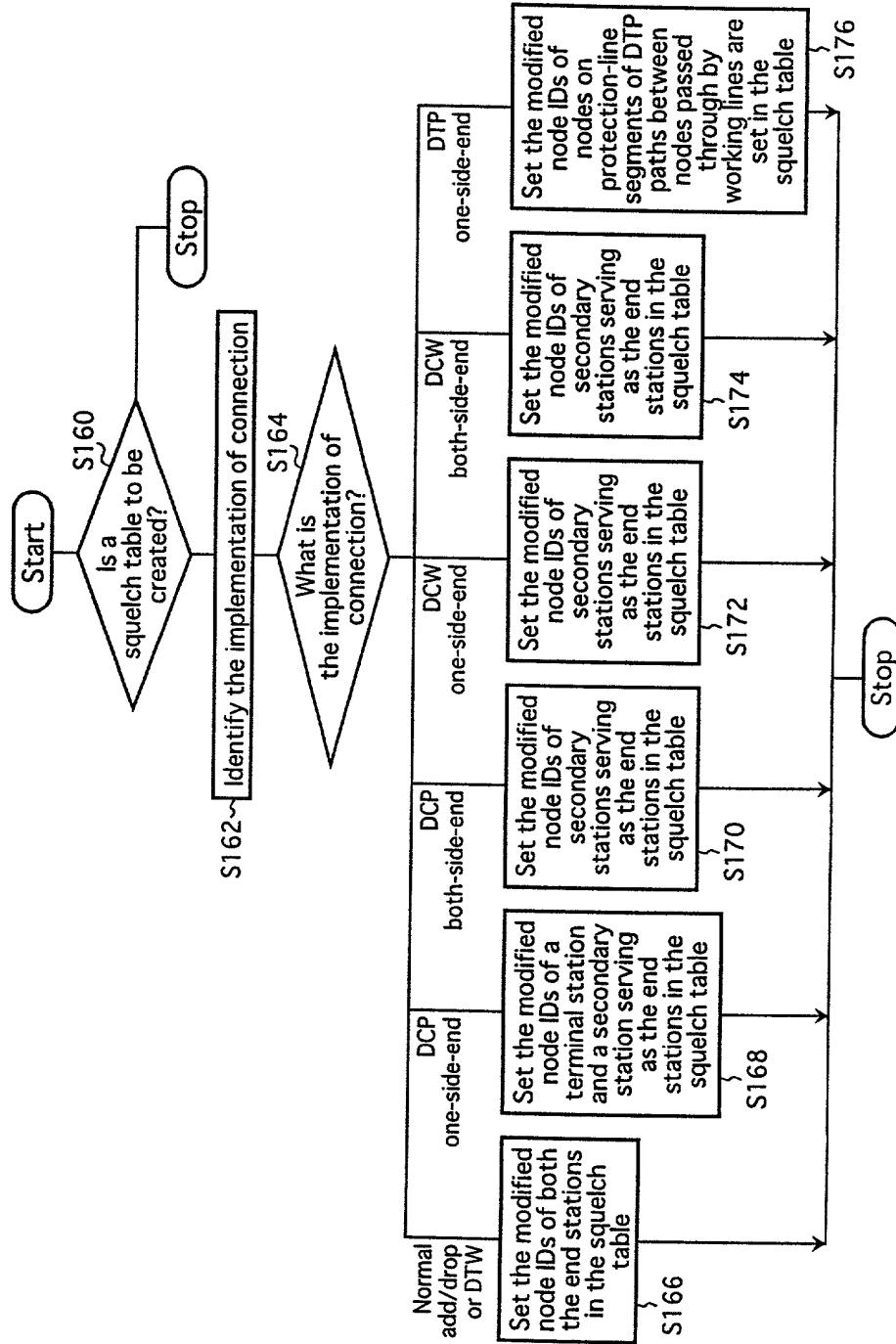
F I G. 6 0



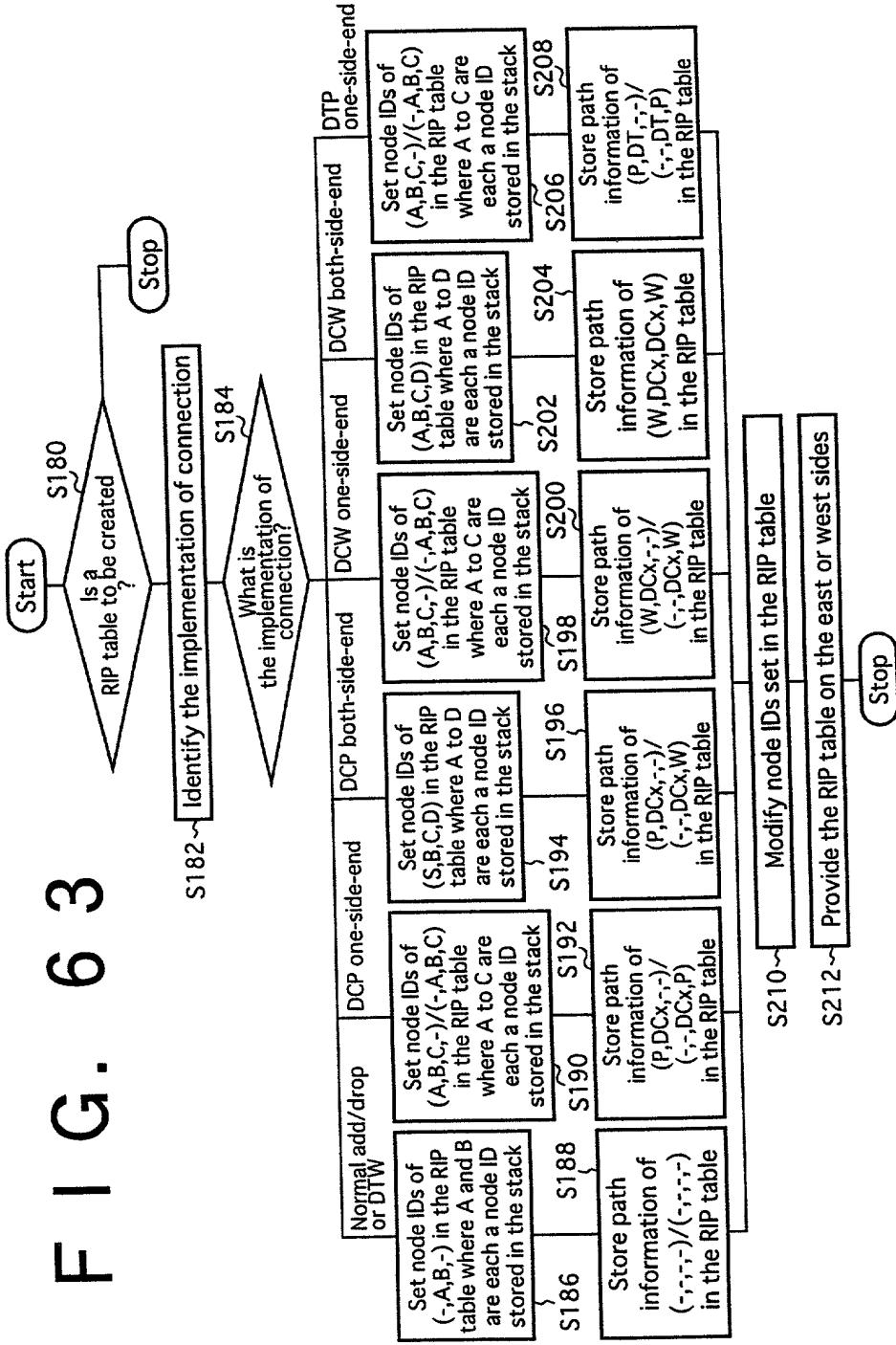
# FIG. 61



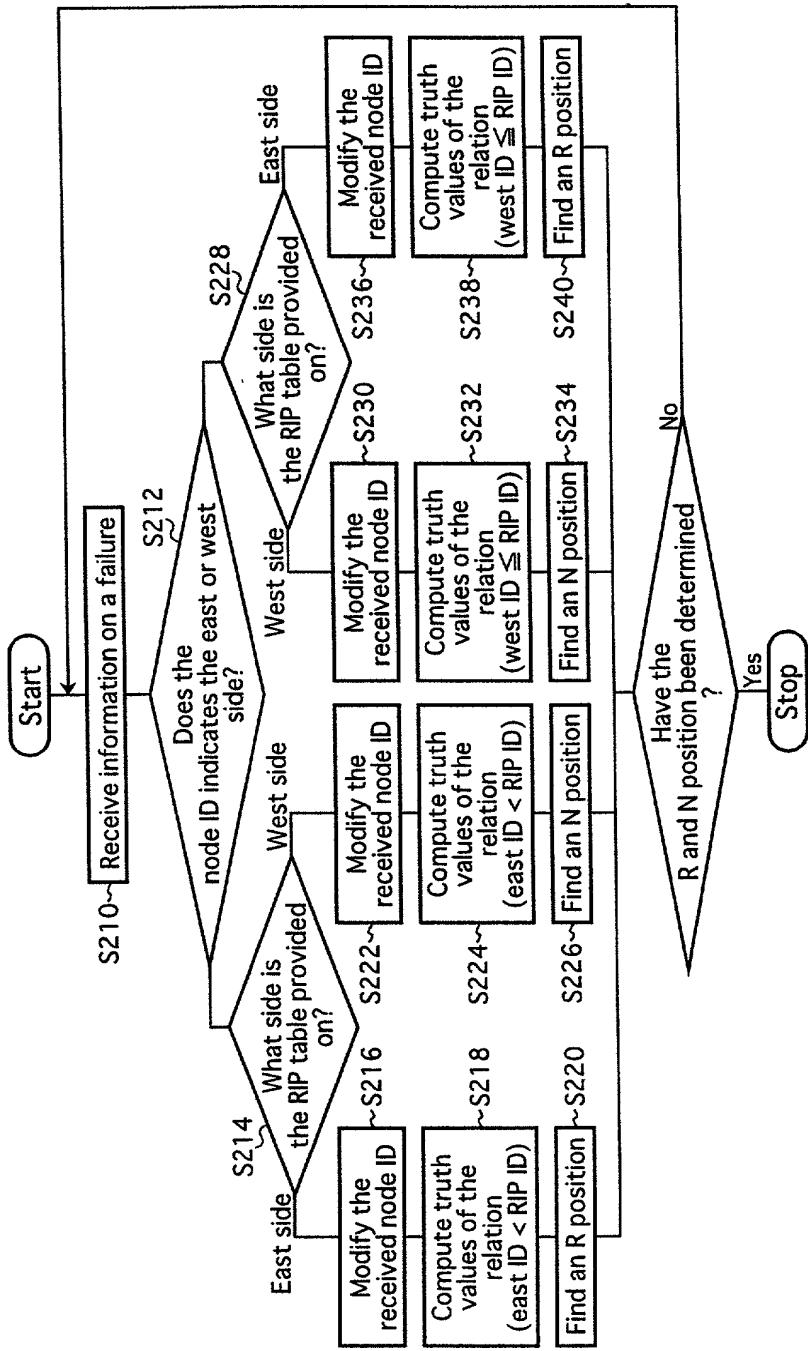
# FIG. 62



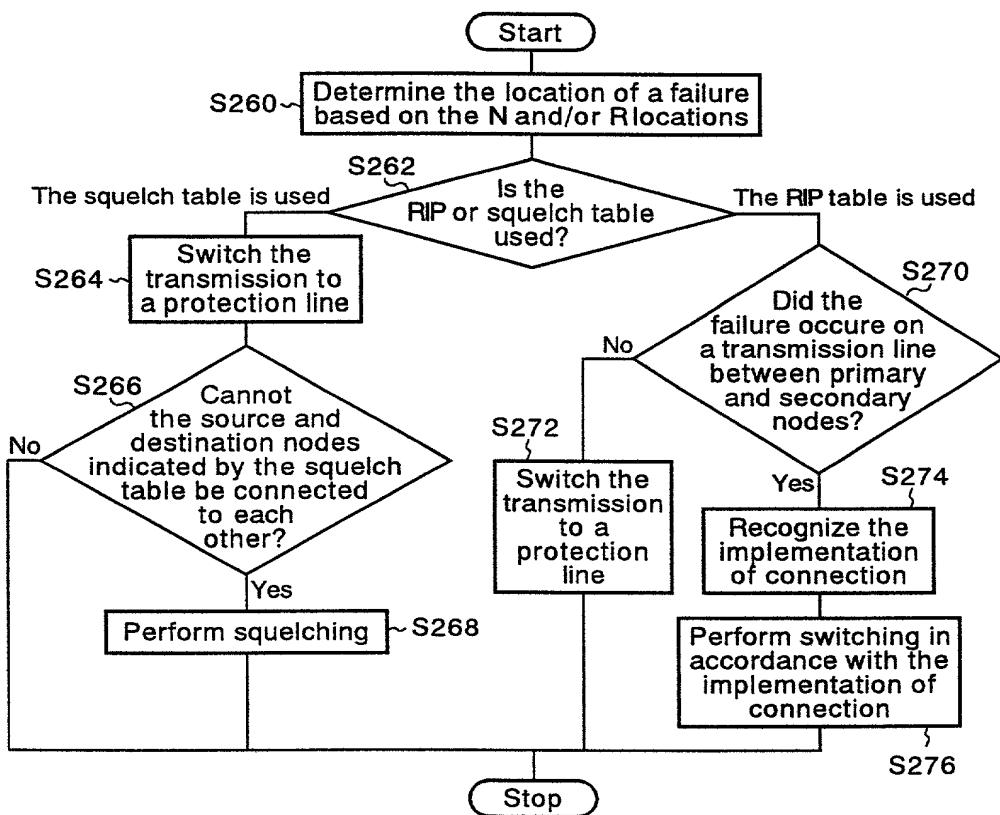
# F I G . 6 3



F - G. 64

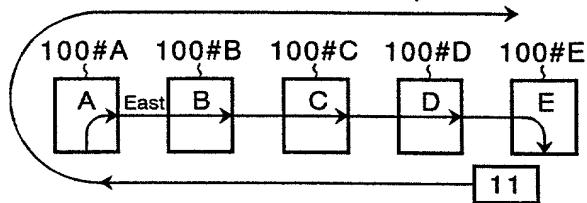


# FIG. 65



## FIG. 66 A

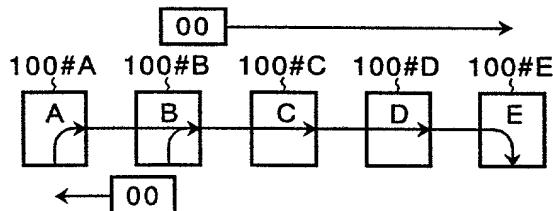
Initial state : A state with the table completed



## FIG. 66 B

A cross connect was added to a B station, resulting in a changed configuration.

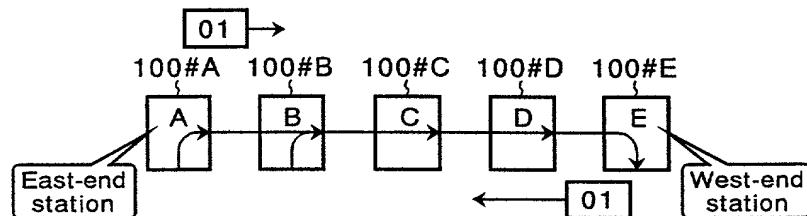
The B station transmits all 0s in both the directions.



## FIG. 66 C

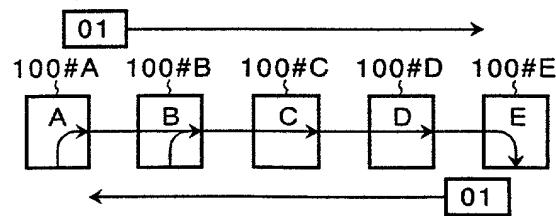
When an end station receives a UNEQ code of 00, reconstruction is started.

The east-end and west-end stations transmit a ring establishment code of 01. (Procedure 1)



## FIG. 66 D

The B station outputting the UNEQ code passes through data as requested by the A station. (Procedure 2)



F I G. 6 7

